CLINICAL LECTURES

ON

DISEASES PECULIAR TO WOMEN.

BY

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PREFACE TO THE FIRST EDITION.

The following pages contain the substance of the Lectures addressed to the class attending the Adelaide Hospital during the past year. They were not delivered in any regular order, but as cases suitable for illustrating the various forms of Uterine Disease presented themselves. Nor had I, at the time, any intention of publishing them. Subsequently I was induced to do so, influenced mainly by the desire expressed by some of the members of the class, to have for reference a concise summary of the practice they had seen carried out in the hospital.

Another reason also influenced me. In my capacity of Examiner, first in the Queen's University, and subsequently in the College of Physicians, I was much struck by the utter ignorance evinced by the great majority of candidates on the subject of "Diseases of Women." Nor was this ignorance confined to the evidently idle men. Thus, even those whose answering on all other subjects proved that they had made good use of their time, were frequently unable to state correctly a single cause on which such a common and important symptom as Menorrhagia might depend; and conse-

quently showed themselves incapable of treating cases in which it might occur. These gentlemen, when remonstrated with, invariably alleged as an excuse, that the numerous subjects they were required to study, precluded their reading the admirable, but somewhat voluminous, works existing on uterine and ovarian affections, and which were the only ones attainable. I trust that the following Lectures, which are devoted to the consideration of the subject solely in its *clinical* aspect, will be found to contain a tolerably full account of the present method of treating the "Diseases Peculiar to Women," and will prove an incentive to the study of this important branch of our profession.

In conclusion, I have only to add, that I do not lay claim to originality in the views put forward in these Lectures. I have simply endeavoured in my practice to keep pace with the recent advances which have been made, in the medical and surgical treatment of the class of cases which have been placed under my care, and to which I have paid special attention for a period of nearly twenty years. Nor have I advocated any treatment, the efficiency of which I have not fully tested.

LOMBE ATTHILL.

11 Upper Merrion street, Dublin,
1*st Oct.*, 1871.

PREFACE TO THE SECOND EDITION.

The rapid exhaustion of the First Edition of these Lectures, which occurred within considerably less than a year from the date of their publication, while highly gratifying to the author, has afforded me but little time for the preparation of a Second. I have endeavoured, however, by a careful revision, to render the present edition more deserving than the previous one, of the favourable reception accorded to it.

I have not found it necessary to retract, or even to modify materially, my views as to any treatment already advocated; on the contrary, time has only confirmed, in my own mind, the correctness, in the main, of my previous teaching. This is more especially so, with respect to the use of nitric acid when applied to the interior of the uterus, a mode of treatment which, I am confident, will yet be practised as extensively by other obstetric surgeons, as it now is, by those of the Dublin School.

Some omissions have been rectified and additions made to several of the Lectures. Among the latter will be found a reference to the treatment of Fibrous Tumours of the Uterus by the Hypodermic Injection of Ergotine; a mode

of treatment which, however, has not in my hands as yet realized the expectations I formed from the perusal of Dr. Hildebrandt's published cases. A Lecture has also been added on the important subject of "Enlargements of the Uterus," which I trust may aid practitioners, who have not had experience in this special field of practice, in arriving at a correct opinion as to the nature of some of the cases in which this condition exists. In fact, while in no way altering the original scope of these Lectures, and keeping prominently in view their concise and practical character, I have endeavoured to render them as comprehensive as possible, aiming especially to express myself in the simplest and least ambiguous language possible.

L. A.

11 Upper Merrion street, Dublin,
2nd September, 1872.

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CLINICAL LECTURES

ON

DISEASES

PECULIAR TO WOMEN.

LECTURE I.

Introductory Remarks—Mode of Examining Patients—Use of Speculum—Fergusson's—Bi-valve—Duck Bill—Uterine Sound—Method of Introduction—Information to be obtained from its use—Bi-manual method of Examination.

Gentlemen—It is of course essential to the right treatment of any disease, that the condition of the affected organ should be carefully and scientifically investigated. To assert such a palpable truth seems almost absurd, yet when coming together as we now do, to investigate the symptoms and discuss the treatment, of the diseases of the female genital organs, it must be borne in mind, and I feel bound to impress upon you the importance of the simple proposition I have laid down. Not a year passes that I do not meet with instances in which practitioners lose credit and character, by neglecting, or being unable skilfully, to make the examination necessary in the class of cases we are considering. What physician would dream of prescribing for a case

of hæmoptysis without ascertaining the condition of the thoracic viscera? Yet many do not hesitate to undertake the treatment of a case in which hæmorrhage from the uterus is present, without having the least idea whether the hæmorrhage depends on the existence of granular ulceration of the os and cervix uteri, on the presence of a polypus, of cancer, on that condition known as sub-involution of the uterus, or on other less easily demonstrable causes. I therefore unhesitatingly lay it down as a rule, that in all cases presenting symptoms of uterine disease, a careful examination of the pelvic viscera should be made. But let me at the same time earnestly impress on you, the duty of conducting such an examination in a mode as little irksome as possible to the patient, and with all possible delicacy.

Now, in examining nearly every case of uterine or vaginal disease, we require the aid of both touch and sight, to arrive at a correct conclusion as to the condition of the affected organs. To use the speculum without a previous examination by the finger and hand, is not only wrong, but fails to convey to us anything like an accurate knowledge of the case. Thus a patient suffers from leucorrhœa with pelvic pain, and pains in the thigh. You make an examination with the speculum, and find the os uteri healthy, and may hastily come to the conclusion that no abnormal condition of the genital organs exist; and perhaps assure the patient that the womb is healthy. But nevertheless she is dissatisfied, for her sufferings continue, and by and by she consults another practitioner, who detects the existence of a retroflected or anteflected uterus—a condition which an ocular inspection of the os uteri failed to detect. I could easily multiply examples, but let this one suffice to impress on you the necessity of making a manual examination before using the speculum.

Now in speaking of a manual examination, I mean more than a digital examination of the vagina. I include also under that term the investigation of the pelvic viscera through the abdominal walls, and if the symptoms seem to demand it, through the rectum also. I shall make a few remarks on the mode of conducting these investigations.

First, then, as to the ordinary digital examination of the vagina or uterus. The patient is placed on her left side, the knees should be well drawn up, and the hips pushed out to the edge of the couch. These preliminaries effected, the index finger, previously well greased* should be introduced slowly upward in the axis of the outlet of the pelvis, the tip of the finger being kept in contact with the posterior wall of the vagina. By adopting this course the finger reaches the posterior *cul de sac* of the vagina, and by carrying it from this point round the cervix uteri, we are enabled at once to ascertain the condition of the lower segment of the uterus. Thus we learn whether it be moveable or fixed, whether it be of the normal size and shape; or if, on the other hand, elongated or hypertrophied. Then by drawing the finger down along its surface you reach the os uteri and discover its state; whether it be patulous, with everted lips, or small and contracted. While thus engaged in investigating the condition of the uterus, you should not fail to attend to that of the vagina, and to satisfy yourself whether it be of the natural temperature and moisture, or unduly hot and dry. But there is more yet to be ascertained before you have gained all the information possible from a digital examination—the position of the uterus itself is to be made

* For this purpose a compound of Purified Soft Soap, three parts; Glycerine, one part; and Carbolic Acid, five grains to the ounce, answers admirably. It washes off easily, is a deodorizer and disinfectant, and does not damage clothes or any other article on which it falls as oil and grease do.

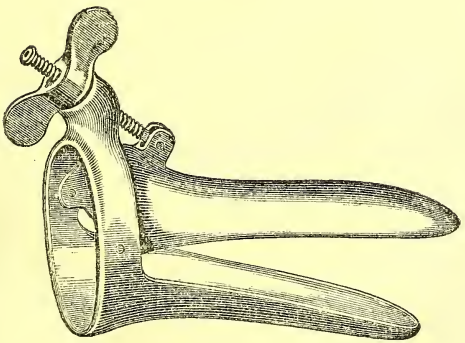
out, for the organ may be retroflected, or anteflected, or possibly, under certain circumstances, completely retroverted.

As a rule you should not be able to feel the body of the unimpregnated uterus through the posterior *cul de sac* of the vagina. If therefore on sweeping the finger round the cervix, you feel a firm globular mass above you, you can at once pronounce that the organ is in an abnormal condition. Then immediately follows the question, which you are called upon to solve, namely, on what does this enlargement depend? But I must defer the consideration of this question to a future lecture; for a mere digital examination, though of importance, is frequently insufficient to enable us to decide this point; and in a large number of cases you must not remain content with it, or you will fall into grave errors. To make your examination complete you must have recourse to the use both of the speculum and of the uterine sound. I name them in the order in which, as a rule, they should be used.

You see on the table three kinds of speculums; they are all of them admirable instruments, and as I am about to explain to you, each possesses certain advantages which the other wants, and certain disadvantages which renders the use sometimes of one, and sometimes of another, preferable. It is, therefore, essential that you should be acquainted with the respective merits of each. There are no doubt numerous other kinds, but for ordinary purposes these are sufficient, and of those for general use I without hesitation recommend the one known as Fergusson's. It is, as you are aware, a glass cylinder silvered externally. This again is protected by a layer of gutta percha, which answers the double purpose of affording a very smooth surface, and serving as a protection to the vagina should the glass by any mischance crack or break. Through a full-sized one of these

speculums you can see the parts very distinctly; it also possesses this great advantage, that it is uninjured by the action of acids, a class of remedial agents which are frequently used in the treatment of uterine disease. It is not, however, so easily introduced as either of the other speculums which I exhibit. If, therefore, the vagina be narrow, or if much inflammation be present, the attempt to use a full-sized one will give so much pain that you will have to desist, and should you with the view of avoiding this, have recourse to a smaller one, you will find much difficulty in bringing the os into view; and even when you succeed in doing so, the portion of the cervix exposed to view will be of such limited extent as often to afford but little information. Still the number of cases to which it is inapplicable will prove to be comparatively few. When from the narrowness of the orifice of the vagina, or from the amount of inflammation present, you find Fergusson's speculum to be unsuitable, I recommend you to make use of a plated bi-valve, such a one as this (Fig. 1).

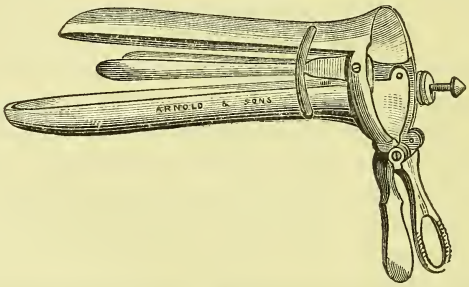
Fig. 1.



It is very easily introduced, but does not reflect the light

nearly so well as the glass one does, and moreover the lateral folds of the vagina fall, to a considerable degree, into the space between the blades when they are expanded, and intercept your view. To remedy this last objection, Dr. Graily Hewitt has introduced a four-bladed speculum (Fig. 2),

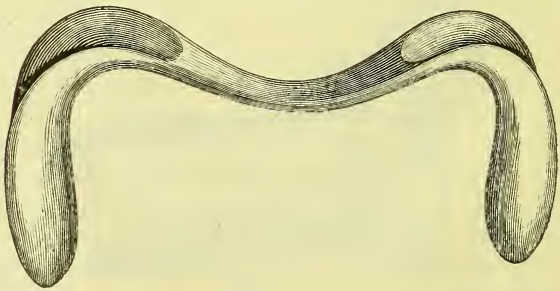
Fig. 2.



which in several respects is superior to any other expanding speculum.

This speculum which, from its shape, is known as the duck-bill speculum (Fig. 3), affords you one advantage

Fig. 3.



Duck-Bill Speculum.

which neither of the others possess—namely, that it permits you to see the os uteri, and at the same time to touch it, a matter of the greatest importance in many cases. We therefore use it when introducing sea-tangle or sponge tents into the cervix uteri; or when having withdrawn these we proceed to examine the condition of, or to make applications to, the canal of the cervix or body of the uterus, and also in the case of all operations about the vagina or uterus. Its disadvantages are that the forcible drawing back of the perineum, which is necessary to permit the os uteri to be seen, causes pain; while if the instrument be not held very steady, the os slips out of view. Secondly, that it is absolutely necessary to have an assistant present to take charge of it; and thirdly, that difficulty is often experienced in keeping the anterior wall of the vagina from intercepting the view, unless, indeed, you seize the os with a hook or vulsellum—the reasons for, and the mode of doing which, I shall on a future occasion explain.

I shall now give you a few directions as to the mode of introducing the speculum, for, if you use the instrument in a bungling, unhandy way, not only will you cause your patient much unnecessary pain, but you will also most likely leave an unfavourable impression on her mind as to your skill, and I therefore feel that I am not wasting time in dwelling on these minutiæ. First, then, you should dip your speculum into warm water to bring it up to the temperature of the body, and oil it; then your patient lying on the left side with the hips well out, you should, with the index and middle finger of the left hand, raise and draw up the right labium and nympha, while with the thumb and index finger of the right hand you hold the speculum, and bring its point to the orifice of the vagina. You should at the same time, with the middle finger of that hand, depress the soft parts

on the left side; for if this be not done, and if the labia or nymphæ be turned in before the edge of the speculum, you will cause your patient much unnecessary pain which a little care on your part would have obviated.

When once the point of the speculum has fairly entered within the vagina, its further introduction is a matter of no difficulty; but still it is very possible for a person inexperienced in its use to fail in bringing the os uteri into view, and therefore you should be careful to keep the point of the instrument pressed well back against the posterior wall of the vagina, for the os uteri should look downward and backward, and by keeping the point of the instrument in the direction I have indicated, the os should without difficulty come into view. If this be not the case the speculum should be withdrawn a little way, and its direction slightly altered, when the desired object will most likely be attained. The foregoing directions hold equally good, whether you use Fergusson's, or the expanding speculum, for though the latter, on account of its shape, is introduced with greater facility, yet it is not easier with it to bring the os into view; indeed the reverse is the case.

The duck-bill speculum requires special directions for its use. The following are those given by the inventor, Dr. Marion Sims, and should be carefully attended to whenever this speculum is used—"The thighs are flexed at right angles with the pelvis, the patient lying in a semi-prone position on her left side, her left hand being drawn backwards under her, and kept in that position; the chest rotated forward, bringing the sternum very nearly in contact with the table or couch, the head resting on the parietal bone; the head must not be flexed on the sternum nor the right shoulder elevated; the patient is thus rolled over on the front, making it a left lateral semi-prone position. The

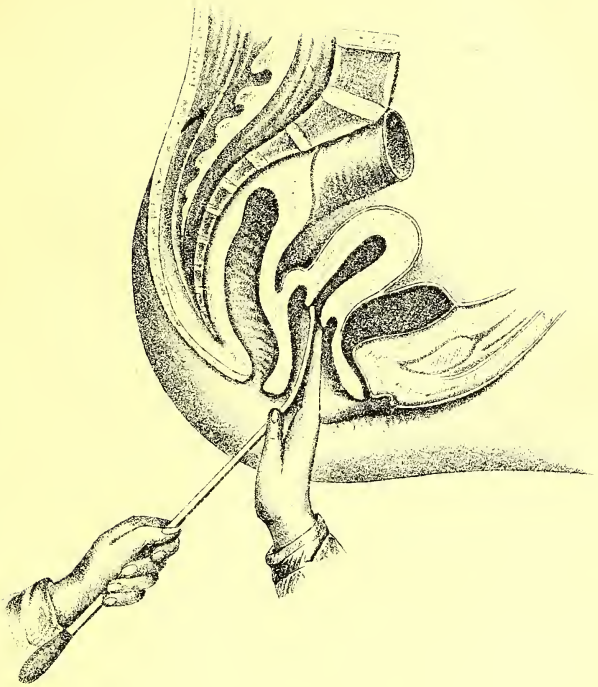
nurse or assistant at her back, pulls up the right side of the nates with the left hand, while the surgeon introduces the speculum, elevates the perineum, and gives the instrument into the hand of the assistant, who holds it firmly in the desired position." These directions are admirable, and should be strictly attended to.

When with either speculum you have exposed the os uteri, you are able to judge of its state. You see first of all what may be the condition of the lips; if they are covered with healthy mucous membrane, and present the normal light mother-o'-pearl coloured appearance, or whether they be congested, abraded, or in a state of granular ulceration and bleeding on the slightest touch; you see also whether the os be a small opening, free from discharge, or whether it be patulous, and plugged with a string of thick, glairy mucous, the sure indication of an unhealthy condition of the cervical canal. Then while withdrawing your speculum, you have an opportunity of satisfying yourself as to the condition of the vaginal mucous membrane; thus by touch and sight you are enable to pronounce with positive certainty as to the state of the os, of the lower segment of the cervix uteri, and of the vagina; but should you stop here, you will in many cases have failed in your duty. Many a sufferer has been told, after having submitted to such an examination, that the womb was perfectly healthy, because the os and cervix appeared to be free from disease, and has consequently been looked upon as a complaining hypochondriac by her friends; while in reality she was a suffering invalid—the physician having failed to detect the actual ailment, either because he omitted to carry his investigation further, or because he was ignorant how to do so. For myself I lay down the following rule, which I advise you to follow, in the investigation of all cases of uterine disease which come under your observa-

tion :—1st. To make a digital examination of the vagina and cervix uteri; 2nd. If that fails to satisfy me as the cause of the patient's suffering, then to use the speculum; and 3rd. If still in doubt, to introduce the uterine sound, unless its use be clearly contra-indicated.

You are aware that the sound is an instrument of recent invention; but even so, it is surprising how little it is used, and how few appreciate its merits. I look on it as at once one of the most useful, and at the same time, if carefully and judiciously handled, safest of obstetric instruments. In my own practice I am indebted to it for most important information, which could have been obtained by no other means, and this too without having ever known it to produce the most trifling injury. Doubtless I am aware, that if roughly and unskilfully handled, or used in an improper case, the most serious consequences may follow its introduction; but the same may be said of the catheter, or indeed of any other instrument requiring skill in its use.

I again repeat, that if carefully used and skilfully handled, it is a harmless instrument, and may be used as safely and as freely as a catheter. Before explaining to you the mode of introducing the sound, I wish to call your attention to the instrument itself (Plate 1): it is, as you see, a metallic staff, not unlike the sound used by surgeons for examining the bladder in the male. The best are made of copper plated. The advantage which they possess is that you are able to bend them at pleasure, a matter of no small importance, as you are frequently obliged to alter the curve when flexions of the uterus exist. At a distance of two and a quarter inches from the extremity of the instrument there is a little knob, which marks the depth to which it should usually penetrate into the uterine cavity; and at this point you observe the instrument is curved, so that it may pass in a direction correspond-



Mode of introducing Uterine Sound.

ing with the axis of the uterine cavity. The entire length of the instrument is marked at intervals of an inch by notches, which enable you at once to decide to what depth the instrument has penetrated; for when withdrawing it, if you keep the point of your finger on the notch nearest to the os, you can with the aid of the figures marked on the handle, see at a glance what the depth of the uterine cavity may be.

It is not a matter of any great difficulty to introduce the sound into the cavity of the uterus; still it requires tact and practice, just as the use of the catheter does. The following directions will aid you in acquiring the requisite skill:—I recommend you to introduce the index finger of the right hand into the vagina, and to keep the tip in close contact with the os uteri, then to guide the point of the sound, held in the left hand up to the os, slipping it along the inner surface of this finger, the concavity of the instrument being turned towards the rectum. A little manipulation and gentle pressure will now make it enter the canal of the cervix. This being fairly accomplished, a fact you can always be sure of because your finger is still in contact with the os, you are to rotate the handle of the sound, a manœuvre exactly similar to that practised by surgeons when introducing the catheter in the male, and termed the "tour de maitre." This has the effect of changing the direction of the point of the instrument, which will now look upwards and forwards in the direction of the axis of the uterus; steady but very gentle pressure should now be made, and the point will, in general, pass on without difficulty till it reach the os internum; here some slight obstruction is generally met with. This, if it occurs, should be overcome by gentle continuous pressure; force must not on any account be used, lest injury be done to the uterine walls. As the point of the instrument passes through the os internum, the patient nearly always complains

of pain and sometimes of nausea; but this goes off in a few minutes, though I have met with instances of the pain lasting for several hours, and I have on one or two occasions known a patient to feel faint; this too never lasted for more than a few moments, and was never sufficiently severe to prevent my finishing the examination; but it is well to tell your patient before you introduce the sound, that she may expect some pain, or at least a feeling of discomfort, similar to that experienced at the approach of a menstrual period.

In some instances an obstruction to the introduction of the instrument is met with low down in the cervical canal. This is not due to any contraction, but to the point of the sound becoming caught in a fold of the mucous membrane, which in this portion of the intra-uterine canal is not smooth but plaited. Should this occur you must withdraw the point a little, and altering its direction somewhat, again press it onward. This difficulty is more likely to occur when the os uteri is patulous, and the cervical canal relaxed from the effects of disease, than when it is in a healthy condition; but a little patience and careful manipulation will always overcome these obstructions. I have dwelt at some length on the mode of introducing the sound, because the difficulties of the operation have been much exaggerated, and I am satisfied that these difficulties are mainly due to want of skill on the part of the operator.

The method of using the sound which I have described is that which I always adopt; but there are other modes doubtless equally as good. Thus Dr. Graily Hewitt, following the plan recommended by Sir J. Simpson, introduces the index finger of the left hand, guiding the sound along it up to the os uteri; while Dr. West recommends introducing two fingers of that hand for the purpose, the instrument being held in the right hand. But whichever method you adopt,

you will speedily with a little practice become adepts, only remember, never use force; better far that you should never introduce the instrument, than that you should run the risk of injuring the uterus, and perhaps cause a fatal result in doing by force what should only be accomplished by tact.

But you will frequently meet with cases in which the use of the sound is entirely forbidden. Thus, if there be any possibility of pregnancy existing, it would be most improper to introduce it, and you should wait till you are satisfied on this point. In cases of cancer, too, and as a rule, during an attack of any form of acute inflammation, your own judgment will warn you against it. But with such exceptions as these, I can confidently recommend it to you as a safe and useful instrument. So high is my opinion of the value of the information to be obtained by the judicious use of the uterine sound, that I make it a rule to introduce it in all doubtful cases, unless its use is contra-indicated by the possible existence of pregnancy, or some equally valid cause; and I am satisfied that this will, at no distant time, be recognised by all well-informed obstetric practitioners as the established rule. Now as to the information to be obtained from its use. We learn three things, which it would be impossible to ascertain by any other means. Firstly, we ascertain with positive certainty what the depth of the cavity of the uterus is. If the sound pass beyond the nodule, at the curve of the instrument, we know that the cavity is unduly elongated, and we can measure accurately the extent to which it is elongated. Secondly, we ascertain the position of the uterus, and determine whether it be in its normal position, or fixed anteriorly or posteriorly. Lastly, we learn whether the organ be fixed or moveable, free or attached to any tumour, which we may find to exist in the pelvis, a matter of the greatest moment;

for when we come to decide the all-important question as to the nature of some abdominal tumour, the sound, and the sound alone, enables us to decide whether the uterus is engaged in that tumour or not.

But our means of obtaining information are not yet exhausted. Our examination hitherto has been carried on through the vagina. We have ascertained what the condition of the os uteri is. We have measured the depth of the intra-uterine canal with our sound. We are satisfied that the uterus has retained its natural position, or is displaced. But we know nothing of the condition of the external or peritoneal surface of that organ. A fibrous tumour, for instance, of any conceivable size may be developed from any portion of the uterine wall, and yet the examination I have hitherto described may fail to detect it. Never omit, then, in all doubtful cases, to pass the hand over the abdomen, and by the aid of both hands, to satisfy yourself as to the shape and size of the uterus. This method, termed by Dr. Marion Sims the bi-manual method, often affords valuable information. To carry it out pressure is made with the left hand over the pubes, while the index finger of the right is kept in contact with the cervix uteri; the patient lying on her back should be made to expire deeply, and, at this moment, the fingers of the left hand should be pressed firmly down into the pelvis, immediately over the pubes, while the index finger presses the uterus upward from the vagina. It will thus, to use Dr Sims' words, "be easy to measure the size and shape of the body of the womb, for it will be held firmly between the fingers of the two hands, and its outline and irregularities will be ascertained with as much nicety as if it were outside the body." In thin subjects the results here enumerated as attainable can be obtained; but in fat or very muscular women we sometimes fail in our efforts to feel the uterus at

all through the abdominal parietes. Still, even with these exceptions, the bi-manual method of examination is often of great value.

I have already told you, that in order to arrive at an accurate diagnosis, it is generally necessary to make a digital examination of the condition of the uterus and vagina, and to use both the speculum and the uterine sound. But in many cases the two latter modes are not only unnecessary, but positively forbidden. Thus, if on introducing the finger into the vagina, you detect cancer of the os uteri, the introduction of the speculum becomes unnecessary, and may be injurious, while the use of the sound is altogether prohibited; or, if on using the speculum, we find the os and cervix uteri to be in a state of ulceration, the symptoms the patient is suffering from will probably be accounted for, and the introduction of the sound into the uterine cavity uncalled for, and therefore to be avoided. So your examination in all cases is to be progressive, the finger always being used in the first instance. Any departure from this course I deprecate strongly.

I have now, gentlemen, described to you very briefly the mode in which you are to investigate cases of supposed uterine disease. But without a knowledge of what you have to learn by your examination, the examination itself will be useless.

It is my duty to point out to you the symptoms of, and the mode of treatment adapted to, the various forms of uterine disease, and I shall, in my future lectures, call attention specially to these, as cases suitable for illustrating them occur.

LECTURE II.

Leucorrhœa — Definition — Characteristics of — Sources of— Vaginal — Cervical—Uterine—Vaginitis — Causes of — Treatment—Clitoridectomy—Vaginismus.

It is a matter of much regret that the nomenclature of the diseases peculiar to women is so vague and indefinite, that terms, which in reality only express a symptom, the result of very various pathological conditions, are commonly used as if indicating a special disease. Thus we hear it said that a patient is suffering from "leucorrhœa," or it may be from "menorrhagia," while in point of fact these terms should only convey the idea of a prominent symptom. To-day I propose to call your attention to the subject of leucorrhœa, a word which literally means a white discharge, and for which the popular synonym is "the whites." It is a symptom met with in connexion with affections differing widely the one from the other, while the discharge itself varies greatly in colour, in consistence, and even in chemical properties. It is essential that you should bear in mind that though, as I stated, leucorrhœa means a white discharge, the term is to be understood in a relative sense as opposed to a red sanguineous one, and that it includes all non-hæmorrhagic vaginal discharges; thus very frequently it is of a light cream colour, sometimes of a yellow, or again of a greenish tinge; it may be inodorous or fœtid, but nevertheless, the patient will tell you that she has The Whites.

In its natural healthy condition, the vagina, while moist,

should not secrete any appreciable discharge, but hardly any departure from a perfectly healthy state of either the vagina or uterus ever takes place without leucorrhœa in some of its forms being present. You cannot have failed to remark, gentlemen, the extreme frequency of this symptom among the patients who have presented themselves here, and yet you have seen that the affections from which they suffered were very various. But before reminding you of the different abnormal conditions on which, as I have from time to time pointed out, these discharges depend, I must briefly enumerate the main characteristics which they present, and the sources from which they proceed. As already mentioned, the term leucorrhœa includes a great variety of non-hæmorrhagic discharges. It very commonly presents itself as a profuse mucous discharge, inodorous and light in colour, or again, as a thick creamy fluid, coating the whole surface of the vagina, and flowing into the speculum as you introduce it; then you have seen it so evidently purulent that, as I pointed out, it was impossible to say whether it was the result of gonorrhœal infection or not; in other patients it presented a curdled appearance, or lastly, was seen as a thick tenacious glairy secretion, issuing from and filling up the os uteri. Now it is quite evident that these various forms of leucorrhœa must not only depend on different causes, but also must be secreted by different parts of the genital canal. Accordingly, we find vaginal leucorrhœa, cervical leucorrhœa, and uterine leucorrhœa, to exist as three distinct affections.

The discharge when proceeding from the vagina is generally a light coloured creamy-looking fluid, unless acute vaginitis be present, when it may become almost purulent: it often is secreted from the whole surface of the vagina, but in some cases, especially in children, it seems to proceed mainly from the vulvo-vaginal glands. Again, in some forms

of ulceration of the os uteri, the discharge is profuse and semi-purulent. That poured out by the cervical glands is very different in character; the glands situated in this part of the uterus are very numerous, and when inflamed secrete a copious tenacious albuminous fluid, closely resembling in appearance the white of egg; this discharge is so remarkable, and so pathognomonic of disease of the cervical canal, as to be unmistakable. Lastly, you may have leucorrhœa proceeding from the interior of the cavity of the uterus itself.

The occurrence of this form of leucorrhœa is less easily recognisable than that of the others, but of its existence as a special affection I entertain no doubt; it is seldom that any discharge, other than the glairy mucous secreted by the cervical glands, is seen to issue from the os uteri, but there is ample evidence to show that a copious discharge is, under certain circumstances, poured out from the mucous membrane lining the body of the uterus. This membrane performs a very important function—namely, that of secreting the menstrual discharge; it becomes, at each catamenial period, congested and thickened, and this great and frequently recurring change in its condition predisposes to the occurrence of disease, in addition to which there is also to be taken into consideration, the vast alterations which occur in it during pregnancy, and subsequent to delivery or abortion. As a matter of fact, we find that the approach of menstruation is in most women ushered in by the appearance of a white, mucous discharge, which there can be but little doubt is mainly secreted by this membrane, therefore that a similar discharge should present itself when it is the seat of disease, is to be expected. In physical characters, the discharge issuing from this source is often not to be distinguished from that secreted in the vagina, but while the latter has an acid, the uterine discharge has an alkaline reaction,

and it is the mingling together of these two fluids of opposite reactions, which gives origin to the curdled appearance sometimes seen in the vagina.

The causes of leucorrhœa may be either constitutional or local. Anything which debilitates the constitution is liable to be accompanied by the appearance of a white discharge; thus it is seldom absent when lactation has been unduly prolonged; or again, if a woman be debilitated by profuse menorrhagia she is nearly certain to be further weakened by the occurrence of leucorrhœa in the intervals between the menstrual periods. Again, it is met with in delicate girls, especially those of a leucophlegmatic temperament, in whom there exists a tendency to phthisis, and not infrequently in them it is the precursor, if not the cause, of the lung disease. Dr. Bennett, who for several years was engaged in practice at Mentone, a favourite resort, as you are aware, for consumptives, remarked that great improvement frequently took place in the condition of many patients threatened with phthisis, in whom leucorrhœa existed, on that discharge being checked by appropriate treatment, an observation capable of easy explanation, if we bear in mind how exhausting must be the effect of a profuse discharge so rich in albumen as is leucorrhœa.

In cases which come under either of the heads I have alluded to—namely, debility arising from over-lactation, or from the effects of a weakly strumous constitution, our treatment must be twofold—namely, first to endeavour to check the debilitating discharge, and then to invigorate the constitution and improve the general health. With the view of effecting the former, you will order the use of astringent vaginal injections, those of alum or sulphate of zinc being the best, from two to four drachms of either salt being dissolved in a pint of tepid water. This quantity should be in-

jected twice a day into the vagina by means of an ordinary syphon syringe, and at the same time you should by change of air, when possible, by the adoption of a generous diet, and by the judicious administration of tonics, of which the preparations of iron are especially appropriate, endeavour to improve the patient's general health; but other cases of leucorrhœa are met with less amenable to treatment than these—namely, those which depend on the existence of visceral disease, such as that of the liver, cases in which special treatment can do no good, and therefore is to be avoided.

It would be tedious and unprofitable for me to enumerate all the constitutional causes which predispose to the occurrence of leucorrhœa. I may briefly sum up this part of the subject by saying, that any disease which debilitates and enfeebles the health, is likely to be sooner or later accompanied by leucorrhœa; but in addition to the numerous cases depending on disease of other organs, or of the system at large, we meet with leucorrhœa as a symptom of local disease, and of none more frequently than that of inflammation of the vagina itself, or vaginitis as it is termed. You have seen over and over again examples of this.

The mucous membrane lining the vagina, in common with that of all other parts of the body, is liable to inflammation of both an acute and chronic character; the latter, however, is much the more common. We have recently had under treatment two well marked instances of acute vaginitis, one in a young woman, J. McComack. She stated that she had been married for four years but had never been pregnant. She complained of burning pain in the vagina, of pain in the back, and of scalding on making water. On examining her, the entire length of the vagina was seen to be of a bright scarlet colour; it was tender to the touch, the introduction of a small speculum and even of the finger giving great pain.

As the speculum was being introduced, we saw a copious purulent discharge of a greenish yellow colour to pour out from its sides. The mucous membrane covering the os uteri was bright pink, the cervix itself being evidently congested.

Now these cases of acute vaginitis are rare, and I always look on them with suspicion; accordingly I questioned this patient closely as to the possibility of her having contracted gonorrhœa; she said it was impossible; but be the cause what it may, we had here to deal with a case of acute inflammation of the mucous membrane of the vagina, and I treated it as I would similar inflammation occurring in any other part of the body. If an oculist meets with a case of acute purulent ophthalmia, he endeavours, in the first instance, to arrest the progress of the inflammation by local blood-letting; I advocate the same practice in acute vaginitis. You may remember that in this case I punctured the cervix freely and encouraged the bleeding, and ordered her saline purgatives, but I did not, in the first instance, make any application to the vagina. Caustics or astringents used at this stage would only have done harm. In the case I am referring to I purged the patient freely, and punctured the cervix at intervals of a few days, and on each occasion abstracted a good deal of blood; and when the acuteness of the inflammation had subsided, applied to the vagina a solution of nitrate of silver, ten grains to the ounce, and subsequently a stronger one. At the end of two months this young woman returned, having in the interval become pregnant. Now had this woman been in hospital instead of attending as an out-patient, I should, in addition to the local abstraction of blood by puncturing or by leeches and the exhibition of purgatives, have prescribed warm hip-baths, and directed the vagina to be syringed with infusion of tobacco leaves at least twice daily, which would not only have expedited the cure, but also have alle-

viated the woman's sufferings, and these are the means I recommend you to adopt in your future practice. The foregoing case afforded a good example of the difficulty of deciding between simple acute inflammation of the vagina and that depending on gonorrhœal infection. I must avow that I know of no means of distinguishing with any certainty between the two.

I have already said cases of acute vaginitis are of infrequent occurrence; but though acute vaginitis is not very often seen, sub-acute inflammation of the vagina, accompanied by leucorrhœa, is common enough, and is the cause of much suffering. The pruritus, the burning pain in the vagina, the frequent desire to micturate, and the scalding on micturition, though not so severe, as in cases such as the one I have just detailed, are constant and most distressing. The causes of these attacks are various: you meet them sometimes in young healthy women, who generally attribute them to cold, but they are seen more frequently in married women in whom, in addition to the causes named, I am inclined sometimes to attribute their occurrence to the effects of too frequent sexual intercourse, of intercourse occurring too soon after a menstrual period, or before the vagina has regained its normal condition after delivery.

There is one form of sub-acute vaginitis which gives rise to very distressing symptoms; in it we see aphthous looking patches on various parts of the vagina. I have invariably remarked that this condition of the vagina is accompanied by most distressing pruritus, not that pruritus does not occur in cases of vaginitis in which these aphthæ do not exist, for on the contrary, pruritus is a very common accompaniment of sub-acute vaginitis, but it is most marked, and nearly if not always present in conjunction with them; and here let me impress on you the uselessness of attempting to treat

itching about the vulva, without first ascertaining what the condition of the vagina and uterus may be, for you will seldom fail to discover, either that inflammation of the mucous membrane exists, or that the uterus is congested or ulcerated, and till these be cured, all your efforts to relieve permanently the pruritus will fail. If vaginitis alone exist, you will, with the view of attaining this object, and at the same time of checking the pruritus which it causes, use in the first instance soothing applications and then astringent ones. Of the former none can compare with infusion of tobacco. It should be made by infusing a drachm of the unmanufactured leaf in a pint of boiling water. The infusion thus prepared should be injected into the vagina twice a day. It is necessary, however, to exercise some caution in using it, for if the orifice of the vagina be very narrow, some of the infusion may be retained in that canal, and nausea and vomiting result from its absorption into the system. When the acute symptoms have somewhat abated, the addition of two drachms of borax to the infusion adds greatly to its efficacy.

Another mode of treatment, of the greatest value, is by the application of glycerine. A roll of cotton wool, or of wadding, with a strong thread attached to facilitate removal, is to be saturated with glycerine; this is then introduced into the vagina through a speculum, and left in situ for twenty-four hours. The glycerine, by its affinity for water, produces a copious serous discharge which often, in a marked degree, relieves the congestion that exists. In a future lecture, however, I will refer at greater length to the local use of glycerine in uterine affections. Syringing the vagina with a solution of borax dissolved in tepid water, or in an infusion of tobacco, as already mentioned, is of great use; the solution should be used of the strength of about three drachms to

the pint, and injected by means of a continuous syphon syringe, on the principle originally suggested by Dr. Evory Kennedy. Such syringes can be obtained at a moderate price of all chemists. The itching in these cases is sometimes almost intolerable. To relieve this most distressing symptom, I am in the habit of recommending the patient after she has syringed or sponged herself with warm water, to lay inside the labia a piece of lint soaked in a lotion composed of carbolic acid ten grains, acetate of morphia eight grains, dilute hydrocyanic acid two drachms, glycerine four drachms, and water to four ounces. Sometimes when the vagina is excessively tender, medicated pessaries containing acetate of lead or tannin do good; but I do not think that any kind can be relied on. Dr. Greenhalgh recommends their being made with glycerine and gelatine, and containing whatever medical substance may be desired; these doubtless possess the advantage of not producing the disagreeable greasy discharge, which those made in the ordinary way do.

You will often find that vaginitis is associated with a weakly state of the constitution, and that you are called on to administer tonics; of these the mineral acids seem especially useful; but it does not follow because you cure the vaginitis that the leucorrhœa will disappear. Sometimes it continues when all symptoms of inflammation have subsided, and then you can use freely and with great advantage, as injections, solutions of alum three drachms, or of sulphate of zinc two drachms to the pint; but often all our efforts fail to check entirely the discharge, and it becomes chronic, or disappears only after a long interval. Before leaving the subject of vaginitis, let me caution you against pronouncing every little blush of redness that may be seen on the vagina to be inflammatory, or of attributing all the symptoms the patient may complain of to that affection. The leucorrhœal discharges of which I have

hitherto been speaking, are secreted from the various glands that surround the orifice of the vagina and from the vaginal mucous membrane itself. A profuse semi-purulent discharge, which must be included under the term leucorrhœa, is secreted from the lips of the os uteri in a peculiar form of ulceration of that part of the womb; to this variety, of which you saw an excellent example, in the case of Mrs. H——, recently discharged from hospital, I will, in a subsequent lecture, draw your attention.

In nearly every case of leucorrhœa the discharge is much more profuse immediately after the menstrual period has terminated, and occasionally it seems to take the place of the latter, which is then suppressed. In these cases the leucorrhœa is profuse at the date when menstruation ought to occur, and lessens considerably, or nearly disappears, for a time corresponding to the interval between the ordinary periods. This is likely to occur when the patient is debilitated by prolonged lactation, or by the existence of some constitutional disease. A white discharge, accompanied occasionally by a good deal of vascularity and irritation of the orifice of the vagina, is also not unfrequently met with in unhealthy strumous children;—this has sometimes given rise to a suspicion that the child had been injured by an attempt at sexual intercourse. You must exercise great caution in such cases in giving an opinion; but unless strong confirmatory evidence exists, showing that an attempt at penetration has been made, I would have you slow in encouraging the idea. You may have recently seen an example of such a case in the children's ward; the little patient was but six years old. Cleanliness and a nutritious diet, with the exhibition of iron, speedily improved her condition; I also passed a camel's hair pencil, saturated in a solution of nitrate of silver, up the vagina every four days, and she was soon quite well. You

must also bear in mind, that irritation about the vulva may be kept up in children by the presence of worms in the rectum.

I may here allude to a trifling, though very troublesome affection not unfrequently met with in females, and which is often accompanied by a leucorrhœal discharge, namely, the occurrence of little vascular mucous tumours, growing round the orifice of the urethra. These frequently give rise to considerable irritation, and even actual pain, the passage of the urine over their surface sometimes causing much suffering. Their removal is a matter of difficulty. Caustics are for this purpose useless, while considerable bleeding has followed attempts to extirpate them. The late Dr. Beatty was in the habit of passing a ligature of fine iron or silver wire round them, with Wilde's snare for aural polypi; but the means most likely to be followed by permanent cure will be found to consist in cauterizing them by means of the galvanic cautery, or by Bruce's gas cautery.

Hitherto I have spoken only with reference to discharges of purely vaginal origin; we have besides, however, not only cervical but uterine leucorrhœa. It is also nearly certain that in some forms of disease of the Fallopian tubes, a discharge is secreted which finds its way into the uterus and thence to the vagina, but it is very difficult, if not impossible to diagnose the existence of Fallopian disease during life.

You are all aware of the appearance which cervical leucorrhœa presents, I have called your attention to it so frequently. In its healthy condition the cervix uteri secretes a transparent viscid fluid in such small quantities as not in general to attract any attention, or be observed, when the speculum is introduced; but, when the cervical canal becomes the seat of inflammation, this secretion becomes not only much more profuse, but also more thick and tenacious,

blocking up the os uteri, and hanging out of it as a thick rope of viscid mucous which it is almost impossible to wipe away. Cervical leucorrhœa, or as it is sometimes called, "cervical catarrh," is an effectual bar to pregnancy, in this contrasting with the other forms of leucorrhœa which do not necessarily cause sterility.

The condition of the cervix giving origin to cervical leucorrhœa is one very difficult to cure; to do so, you must treat the whole extent of the cervical canal, and this can seldom be accomplished without dilating it to an extent sufficient to enable you to apply to its whole length a strong caustic, such as the fuming nitric acid, to which I give the preference above all others; the application of solution of nitrate of silver, and even of the solid nitrate itself, will seldom be sufficient. If the case be not of very old standing, the introduction of one of the solid zinc points, as suggested by Dr. Braxton Hicks, often does good. You have seen me apply them several times with success; they cause a good deal of local irritation, and give some pain, but this soon passes off. The chances of this occurring may, however, be much lessened, by placing in contact with the os uteri, after the zinc point has been introduced, a roll of cotton saturated with glycerine. At present, however, I can only glance at the treatment of this most obstinate affection; I shall return to it again when the subject of ulcerations of the cervix uteri come before us.

I have already stated that leucorrhœa may proceed from the interior of the body of the uterus; the diagnosis of this form, is less easily made than that of the others. It is generally accompanied by a greater or less amount of pain, which is not necessarily present in either of the other forms. The reason of this is easily understood, for uterine leucorrhœa is, I believe, nearly always the result of congestion of the lining

membrane of the womb. When leucorrhœa is vicarious with, or as already stated, takes the place of, the regular menstrual discharge, it is probably from the interior of the uterus that it proceeds.

Perhaps the present is the most suitable time I shall find for alluding to a practice, unfortunately of not very rare occurrence, which, while it destroys the health of the body, if persisted in, impairs in no less a degree the powers of mind, and which is nearly always accompanied by leucorrhœa—I allude to masturbation. I do not believe all I have heard as to its great frequency, but that it is practised by many females is too true. In some, I have no doubt, it has been the result of uterine disease, the habit having been contracted accidentally in the first instance, in the efforts to procure alleviation from the irritation which so often exists about the orifice of the vagina; but, be the cause what it may, it is soon accompanied by vaginitis and endo-cervicitis, manifested by the presence of the well-known glairy cervical discharge. Beware, however, of charging a patient with being addicted to this degrading habit, because suspicious symptoms present themselves; the dilated pupil, the downcast look, the uncontrollable excitement, which a vaginal examination causes, generally tell the tale; added to this, there is often a severe lancinating pain complained of immediately over the pubes, and in several cases I have noticed that vomiting *at night* has been a prominent symptom. These distressing cases can be cured by moral means alone; local treatment is useless, and generally injurious, for it attracts the patient's attention to the genital organs, the very thing we should be most anxious to avoid. I cannot find words sufficiently strong to condemn, as I would, the barbarous practice of mutilating the patient by the removal of the clitoris. This operation is as useless as it is disgusting, for there is no

truth in the idea that in the clitoris alone is seated the nervous expansion which subserves the sexual orgasm.

There is a condition of the vagina, or, to speak more correctly, of the orifice of the vagina, to which the term vaginismus is applied, the result apparently of some irritation of the nerves supplying the sphincter, or constrictor vagina muscle, and which sometimes causes much distress. Any attempt at sexual intercourse, or even to introduce the finger, producing spasmodic closure of the canal. In some cases this condition is evidently the result of inflammation, and can only be relieved by the use of soothing applications, such as those already recommended in cases of ordinary vaginitis, and by leeching. In addition to these means, Dr. Barnes recommends getting the patient to wear a cylindrical vaginal pessary made of indiarubber, which is to be inflated with air after its introduction; this acts beneficially by keeping apart the irritable and inflamed walls of the vagina, and moreover, according to Dr. Barnes, by the "mechanical support it affords to the vaginal walls, subdues the morbid contractility of the muscular tissue."

In other cases, however, no inflammation exists, except it may have been produced by attempts to overcome forcibly the spasm.

Dr. Marion Sims is of opinion, that under such circumcumstances the hymen itself is the seat of the excessive irritability, and he has succeeded in perfectly curing several patients, by dissecting out the hymeneal membrane, and afterwards dilating the vagina by means of glass dilators (Uterine Surgery, page 335). Vaginismus, in an aggravated form, is not of frequent occurrence, but cases exhibiting minor degrees of spasm are met with in practice from time to time.

LECTURE III.

Menstruation—Amenorrhœa—Causes—Local — Constitutional —Treatment of Various Forms—Use of Galvanic Stem Pessary—Medical Agents.

By menstruation, as you are aware, is understood that periodic sanguineous discharge which occurs in the human female at regular intervals of about four weeks, and marks the period of ovulation. Its first appearance in the majority of girls takes place in their fourteenth or fifteenth year, but it may be, and frequently is, deferred to a much later period without the health being impaired. The discharge itself is blood, mixed with mucus from the vagina and uterus; the blood proceeds from the uterus, and escapes from the mucous membrane lining its body; this has been proved beyond all possibility of doubt, for in cases of inversion of the uterus, the blood has in several instances been seen to flow from the everted surface; but, although the blood proceeds from the uterus, the function depends on the ovaries, both for the stimulus necessary for its first appearance, subsequent regular recurrence, and due performance. These organs, as you have learned elsewhere, become congested as the period approaches, and finally extrude the mature ovum, while the uterus, participating in the same condition, assumes a state of activity; the mucous membrane which lines the cavity becomes thickened and velvety, ready to afford a favourable nidus to the ovum should it become fecundated, or failing that, to pour out blood in a sufficient quantity to relieve the temporary congestion which has temporarily existed. The

most careless observer must see how slight a cause may disturb the equilibrium, which nature designs to be maintained during the performance of this nicely-adjusted process, and how a chill, or other suddenly acting cause, by checking the menstrual discharge, may lay the seeds of uterine disease.

As already stated, the majority of females commence to menstruate during their fourteenth or fifteenth year; in many, however, the discharge does not show itself till a much later age. The interval which elapses between each period varies a good deal in different women; it should not however be less than twenty-one, or exceed twenty-eight days; the duration of the period, too, varies much; in some extending over but two or three, in others continuing for six or seven days; if these limits be exceeded, menstruation cannot be looked upon as being strictly normal, though instances are met with, in which a considerable departure from the foregoing standard occurs, and yet the health in no way suffers. The reproductive powers of the female cease with the cessation of menstruation, which occurs at a date even more irregular than does the first appearance of the flow, and this period, termed by some "the change of life," by others the "climacteric period," is a time marked by a special tendency to the development of disease.

The departures from normal healthy menstruation are numerous. Menstruation may be scanty or profuse; it may occur only after long intervals, or return after the lapse of but a few days; it may be painful, or, finally, not appear at all. This last condition is probably the rarest. Amenorrhœa, taken in the limited sense of total absence or suppression of menstruation (the suppression of menstruation during pregnancy being of course excluded), is not by any means so frequently met with, as are the other forms of derangement of the menstrual function; but if taken in the more extended

sense of greatly diminished menstruation, it comes commonly enough under our notice, and it is in this latter sense that we must consider the subject.

Cases of amenorrhœa naturally divide themselves into two classes, namely, those in which menstruation has never occurred, or, if at all, in a very imperfect manner; and those in which the function once normally performed, now appears irregularly and has a scanty flow, or has ceased entirely; each of these, again, must be subdivided into two other classes, as the amenorrhœa depends on local or constitutional causes. It is self-evident that for the due appearance of the discharge, no less than for its regular return, both the ovaries and the uterus must be in a normal state, for, though poured out from the inner surface of the latter, the stimulus essential to produce this result must proceed from the ovaries. If, therefore, the ovaries be absent, diseased, or imperfectly developed, or if the uterus be wanting or rudimentary, the discharge will not appear at all, or at best, as a mere sign. There is generally much difficulty in deciding whether the ovaries are at fault or not; if the patient be well formed, if the breasts have become full and round, and if, in addition, the symptoms known as the "menstrual molimina" show themselves, we may conclude that it is not from fault in the ovaries that the non-appearance of the discharge depends. These symptoms, in addition to numerous vague nervous sensations, consist of pain in and fulness of the mammæ, which sometimes becomes swollen and hard, of pain in the ovarian region, weary aching across the loins and down the thighs, of flushings and headaches, and sometimes of nausea. If all these symptoms be wanting, there is strong reason to suspect that the absence of menstruation depends on some abnormal condition of the ovaries, but what that condition may be can seldom be known during life.

In the majority of cases in which the absence of the menstrual molimina leads us to suspect that the ovaries are absent or defective, the patient's general contour is imperfect and the stature stunted; but this is not by any means necessarily so. There is a woman at present attending our out-patient department, whose case I called your attention to the other day. She is well formed, æt. about thirty, and has been married for about four years. Menstruation occurs, she tells you, only at intervals of three months or upwards, and she adds, that till after marriage she menstruated altogether but some half dozen times, at intervals of at least twelve months. Sexual intercourse in her case has evidently acted as an ovarian stimulus, inducing the flow to appear after shorter intervals and in increased quantities; she has never been pregnant. I am of opinion that in this case the ovaries although present are in a state of imperfect development. I should add that the vagina and uterus are in all respects normal.

Again, the uterus may be entirely wanting or only in a rudimentary condition. No case in which the uterus was altogether wanting has presented itself at this hospital since my connection with it, but I must nevertheless refer to the subject. Cases occur in which all the symptoms constituting the "menstrual molimina" are present, and in which consequently we may fairly conclude that the ovaries are normal, yet menstruation does not follow. In some of these the uterus has been proved to be entirely absent. The diagnosis on this point is not difficult to make, for if a silver catheter be introduced into the bladder and the finger into the rectum, the presence or absence of the uterus can be determined with certainty.

But though cases in which the uterus is altogether wanting are rare, instances of an imperfect or rudimentary con-

dition of the organ are from time to time met with. The following recently came under my observation: the patient, a married lady, had never been pregnant; menstruation appeared regularly, but was very scanty, and lasted hardly a day; the uterus measured but an inch in length, the vagina too was very short, the entire length being only about two inches; she consulted me on account of her sterility. In such cases the protracted use of the galvanic stem pessary has occasionally been productive of benefit, and in some instances the uterus has elongated and increased in size under the influence of the stimulus the instrument has afforded, menstruation at the same time becoming more nearly or even altogether normal. The shortening of the vagina is very commonly met with in cases in which the uterus is imperfectly developed. In some instances that canal is entirely absent. Dr. Sawyer exhibited a specimen of this condition at a meeting of the Obstetrical Society, during the past winter. The patient, from whose body it was taken, had been for years under his observation. She suffered the most intense paroxysms of pain for some days during each month, caused, Dr. Sawyer believed, by the attempts the uterus made to expel the menstrual fluid, and to force a passage by which it might be discharged; after death a pouch was found below the os uteri, distended with fluid. The evident total absence of the vagina in this case deterred Dr. Sawyer from attempting an operation. Lesser degrees of closure are, however, more frequent, and afford fair promise of being benefited by operation; and as serious consequences, and even death, are likely to result, if an exit for the menstrual fluid be not obtained, the attempt to reach the upper portion of the vagina by a careful dissection is certainly warranted.

But more important because more common and more often capable of being benefited by treatment, are those cases of

partial closure of the vagina which are not unfrequently met with. This closure is sometimes of but limited extent, the result of local inflammation, which may have been excited in early childhood; but it occurs more commonly after tedious labours, in which the second stage having been unduly prolonged, sloughing has followed, and finally, the vaginal walls have become united throughout a greater or less portion of their extent. When the occlusion is the result of adhesions, formed during infancy or early childhood, it is generally situated low down in the vagina, at or near the vulva; but if it be the result of sloughing following on protracted labour, it is more likely to be met with in the middle or upper third of the canal.

Both these forms are generally capable of being cured by an operation, a small opening being first made which should be gradually and carefully enlarged; but it would be impossible to describe the steps of an operation, which must vary in each case according to the part of the vagina at which the occlusion is situated, its extent, and the age of the patient; but in all cases great care is necessary to prevent the adhesions reforming. With this view the vaginal walls must be kept apart by the intervention of a pledget of lint or of cotton wool saturated with glycerine, and for a long time after the surfaces have healed, the patient should wear a glass dilator for two or three hours daily, for in these cases there is always a great tendency in the vagina to contract. The term *atresia* is applied to all cases of absence or closure of the vagina. Lastly, amenorrhœa may be occasioned by the presence of an imperforate hymen, a condition, however, so rare that I have met with but one example of it. The hymen in that case existed as a dense membrane, which bulged outwards through the vulva, and was distended by the fluid which filled the vagina. The patient was a girl, æt. about sixteen; the fluid

was first slowly and cautiously evacuated through a small canula, and exit was thus given to a large quantity of a dark inodorous fluid, and subsequently the membrane was freely divided by a crucial incision.

But apart from these malformations which are comparatively seldom met with, certain local conditions occur which interfere with the regular performance of menstruation and cause amenorrhœa. Of these none is more common than congestion of the mucous membrane lining the body of the uterus, the result of exposure to cold, or of some shock or inflammatory attack. If a woman, during the menstrual flow, be suddenly chilled, or remain sitting or standing for a length of time in a damp, cold place, the flow is very likely to be checked, congestion of the uterus, or at least of the mucous membrane lining its cavity, being the result. This condition may then become permanent, and till it be relieved the discharge will not reappear, or if at all, in an imperfect manner. Amenorrhœa depending on this cause gives rise to very distressing symptoms: the patient complains of pain in the back, of a sense of weight in the pelvis, but more especially of headache. You have frequently seen instances of this form of amenorrhœa among the patients in the extern department. These cases nearly always apply for relief during the interval which elapses between two menstrual periods, and you must consequently at first limit your efforts to relieve the prominent symptom, namely, the headache, and not make any attempt to re-establish the flow till the time comes round when it ought in the regular course to appear. With the view to the former, I almost invariably give mild purgatives. In dispensary practice I usually prescribe a mixture containing one ounce of sulphate of magnesia in eight ounces of infusion of quassiæ, to which I generally add a drachm and a-half of dilute sulphuric acid. Two tablespoonsful of this

mixture taken morning and evening, nearly always act as a mild laxative; should it not, I direct a third dose to be taken at mid-day. This simple treatment generally relieves the head, and you must have repeatedly noticed patients to return stating that the headache had entirely disappeared, and sometimes that the discharge, which had been suppressed, had again showed itself. Instead of the saline purgative just alluded to, my colleague, Dr. James Little, is in the habit of prescribing a pill containing one or two grains of extract of aloes combined with one-sixth of a grain of tartar emetic, to be taken each night at bedtime, a formula which he has found of great use in cases of recent standing, occurring in girls of plethoric habit.

But often additional measures are necessary, and these you are to have recourse to when the time at which the flow should appear, approaches. You should direct the patient then to sit with her feet in hot water for fifteen minutes each night for several days in succession; by mixing two or three tablespoonsful of mustard with the water you will greatly increase the efficacy of this treatment. I recently succeeded in establishing the flow in a healthy young woman by applying large poultices of linseed meal and mustard to the loins. If the patient be plethoric the application of a couple of leeches to the verge of the anus, or the inner and upper part of the thigh, constitutes a safe and often very efficacious mode of treatment. Till you have succeeded in relieving the local congestion, you should not have recourse to the exhibition of that class of remedies which stimulate the ovaries and uterus, and which are known by the name of emmenagogues, for such treatment would only aggravate the evil.

There is one form of irregular menstruation which must be classed under the heading of amenorrhœa, for the function is defectively performed. In this form the discharge appears

at the regular time, but stops after a day or so, to reappear in, perhaps, twenty-four or forty-eight hours—thus coming and going at short intervals. This kind of "interrupted" menstruation, I have noticed several times, in connection with chronic endo-metritis, and thickening of the cervix. A very good example of this is afforded in the case of a patient at present under treatment in the pay ward. She is a nurse-tender, and was admitted complaining of severe pain in the back and thigh, which incapacitated her from following her occupation; there is some erosion of the lips of the os; the uterus is heavy and anteverted; the cervix greatly thickened: unless in her case we can cure this condition of the uterus, menstruation will not again follow its normal course.

But cases occur in which the uterus seems so sluggish that, though free from disease, it will not respond to the natural stimulus which the ovaries should afford, and this though no constitutional disease exists; these are the cases in which means directed to stimulate the uterus do good, foremost among which is electricity. A remarkable example of the benefit of this agent came recently under my observation. J. N., æt. nineteen, a pale strumous looking girl, had never menstruated, but for some months past had periodically vomited blood; the vagina and uterus were normal; strychnia and other drugs were administered without benefit. Medicines were discontinued, and electricity was tried; one pole of the battery being applied to the sacrum and the other to the vulva; this was repeated daily for a fortnight, when she complained of intense headache, of pain in the back, and of sickness of stomach; the next day the catamenia appeared freely, but strange to say none of the symptoms subsided; the vomiting was incessant and the febrile symptoms ran very high; the flow continued for six days, very freely, and then ceased, and with it disappeared the febrile symptoms, the sickness of

stomach and headache. At the end of four weeks she again began to suffer from headache; electricity was again had recourse to, and the catamenia again came on, this time unaccompanied by the severe symptoms which had previously marked its advent.

There is another method of stimulating the uterus which I have practised with much success in such cases. I allude to the use of the so-called "Galvanic"* stem pessary. This little instrument (Fig. 4) is made of copper and zinc, the

FIG. 4.

upper half of the stem being zinc, the lower copper, or better still, of two parallel pieces of copper and zinc, united throughout the entire length of the stem. Dr. Thomas, of New York,

* While I retain the term "Galvanic," as applied to this pessary, and say I have found it of use, I do not wish it to be understood that I consider it to possess any galvanic properties, which as such act on the uterus. There can be no doubt, however, but that when the two metals (copper and zinc) of which the instrument is composed, are in metallic contact, and surrounded by a fluid containing saline matter in solution, a certain amount of electrical action goes on, and that when the stem is introduced into the cervical canal, the salts contained in the uterine secretions are decomposed, and corresponding salts and oxides of zinc and copper are formed which act on the mucous membrane lining the uterus.

recommends a further modification, and in some cases uses a stem composed of alternate beads of copper and zinc, strung together on a copper wire, thus making the stem flexible, which in some cases is an advantage. The bulb to which the stem is attached is hollow, and there is an orifice in its under surface into which the point of a sound being inserted, you are enabled to carry the pessary up to the womb; the stem is passed through the cervix till its point *nearly* reaches the fundus, and the instrument then left with the stem in the cavity of the uterus. These pessaries are made of various sizes and lengths, a matter of great importance, as not only does the uterus vary in length in different individuals, but also the cervix will in one case admit a stem much larger than in another; you should therefore measure the depth of the uterus before you attempt to introduce one of these pessaries, and select one *a little shorter* than the depth of the womb, taking care also that the diameter of the stem is suitable to the capacity of the cervix, for if you introduce one with too slender a stem it will immediately fall out, or if, on the other hand, it be too thick the introduction will be a matter of great difficulty, and even if introduced, the instrument will cause so much pain as to render its removal a matter of necessity.

It requires some dexterity to introduce the stem, but a little practice will soon enable you to overcome the difficulty; if the cervix be very narrow it is better to dilate it a little by introducing a single length of a No. 2 or 3 sea tangle bougie, but the necessity for this does not often occur. I leave this instrument when introduced *in situ*, for three or four weeks, unless it should cause irritation or pain, in which case it should of course be removed; but under any circumstances the patient should be examined after a lapse of a month, lest ulceration be produced, a result which never occurs if due care be taken. If at the end of a month the desired improvement

in the state of the menstrual function has not taken place, it is better to remove the instrument, and re-introduce it after the lapse of a few days. I have several times seen the happiest results follow the use of this instrument, both in the case of young women who have never menstruated, or in whom the function has been imperfectly performed, and also in married women, in whom it has been suspended for a time. It is not so well adapted to the treatment of hospital patients as to those we treat in private, for it is very difficult to keep the former in view for any length of time or to get them to return after the proper intervals to have the pessary removed; you saw me introduce one, however, a few days ago, and the case will be an interesting one to watch. The patient is a married woman, æt. thirty-five; menstruation has not appeared at all for the last three years; I cannot detect any symptoms of either constitutional or local disease which can account for this. Medicines having failed to do her good, I have suspended their use; we shall see what the pessary may effect.

But cases of amenorrhœa depending on constitutional causes are of more frequent occurrence than those of local origin. You must all be aware that suppression of menstruation, or its appearance as a mere sign, is often an early and ominous symptom in cases of incipient phthisis, and frequently it is the symptom for which we are consulted. Let me here repeat the warning I have so often given you, when such cases have presented themselves, not to yield to the solicitations of the patient, or of her friends, to attempt to restore the function by the exhibition of stimulating emmenagogues; the attempt would be vain and the result disastrous, both to your character and to the patient's health. Females almost invariably look on suppression of menstruation as the cause of

their ill health, and will express day after day the certainty they feel that health would be restored if the discharge could be made to re-appear, an assertion often true if only read conversely; the re-appearance of the discharge indicating that health had improved, but not being the cause of that improvement. Thus some women menstruate regularly when resident in certain localities, but never when compelled to leave them. I saw some time since a lady who was quite regular during a two years' residence at Falmouth, though for a long time previous to her going there menstruation had been entirely suppressed. Business matters compelling her to revisit Ireland, the amenorrhœa soon became habitual; symptoms of phthisis rapidly developed themselves, and she died in a few months of consumption. Need I add that in such cases the lung disease, not the amenorrhœa, is the condition calling for treatment.

All other forms of organic diseases come under the same category, as being frequently the causes of amenorrhœa, but it is not my province to enter on the treatment of these, and the enumeration of them would be tedious; one constitutional disease, however, of which amenorrhœa is a prominent symptom, calls for special notice. I mean anæmia, including under that term chlorosis. In it, as you are aware, the patient presents a sickly yellowish green colour. She complains of pain in the back, of lassitude, and often of headache; nearly always the appetite is bad and the taste depraved; the bowels are constipated, and generally the tongue is furred. These cases are unfortunately too common among our town population, especially among those poor women who work hour after hour from early morning till late at night, earning a miserable pittance with the needle. With them we can do but little; country air and a generous diet would soon work won-

ders for them, but the remedy is beyond their reach. In many, however, some good can be effected by the exhibition of tonics, and especially of iron, a remedy which above all others is here indicated. As constipation is nearly always present you should combine it with aloes, which greatly enhances its activity; two grains of the sulphate of iron, with a quarter or half a grain of extract of aloes, taken three times a day, sometimes acts as a charm.

Another medicine of the highest value is strychnia; five drops of the liquor strychniæ, which is equivalent to the one twenty-fourth of a grain of the alkaloid, gradually increased to ten drops three times a day, alone or in combination with the tincture of the perchloride of iron, sometimes produces the most beneficial results; but I think it is more suitable to those cases in which simple debility rather than a chlorotic condition is present. Strychnia, I believe, acts as a powerful stimulus to the ovaries, as well as a general tonic.

Where no anæmia is present, and that the indication seems to be rather to stimulate the ovaries and uterus, I have found the combination of five drops of the tincture of iodine and five of the solution of strychnia, productive of much benefit.

I shall allude to but one other constitutional cause of amenorrhœa. It is one of not very infrequent occurrence. I mean a plethoric condition of the system. In such women the complexion is high, the pulse strong; they suffer much from flushing and headache, especially at the time menstruation ought to occur. In such cases active outdoor exercise, a moderately abstemious diet, and the exhibition of the acid saline purgative, already recommended in cases of local congestion, will generally produce good results. We should aim at establishing periodicity, and selecting the time in each month when the occurrence of the molimina indicate that menstruation ought to occur; apply two or three leeches

to the inside of the thighs or to the verge of the anus, and thus relieve the local congestion, and thereby favour the chance of the natural flow appearing; or, if the patient be married, puncture the cervix and abstract blood directly from the uterus itself.

LECTURE IV.

Dysmenorrhœa—Definition—Membrane thrown off during—Spasmodic—Inflammatory—Cause of pain in—Typical case of—Treatment of—Mechanical—Surgical Treatment of.

Intimately connected with the subject of amenorrhœa, is that of painful menstruation, or dysmenorrhœa, as it is termed; a subject the pathology of which is still far from being clearly understood.

Menstruation, like all the other functions of the body, to be perfectly normal should be painless, but in point of fact, the majority of women suffer more or less pain and discomfort before the appearance of, or during the flow, while in many the sufferings are very severe. In dysmenorrhœa, as a general rule, the pain commences about twenty-four hours before the discharge appears, increasing in severity as the period approaches, sometimes becoming so intense that the patient cannot move about, but is compelled to lie down, and even to roll in agony on the bed; occasionally, too, nausea and even vomiting occur. In due time the discharge appears, and then in many instances relief is obtained; sometimes, however, the pain lasts during the whole period, or becomes paroxysmal, and again not very unfrequently clots, and sometimes shreds are expelled per vaginam, and instances are recorded in which large pieces of membrane, and even a perfect cast of the entire cavity of the uterus, have thus come away during attacks

of painful menstruation. This dysmenorrhœal membrane is probably an exfoliation from the mucous membrane which lines the cavity of the uterus, and is most likely the result of chronic inflammation. Its expulsion has on some occasions given rise to the suspicion of pregnancy, a suspicion, which a careful examination of the bag will speedily dissipate, as of course all trace of an ovum is wanting.

Authors differ greatly as to the nature of the causes producing painful menstruation; no theory has of late years been so prominently brought forward, or so warmly advocated, as the mechanical one. Mechanical dysmenorrhœa, and obstructive dysmenorrhœa, are terms you will hear constantly made use of. Now, while admitting that mechanical obstruction to the exit of the menstrual discharge occurs, I doubt that it is as frequently a cause of painful menstruation as is generally stated; nor can I admit the correctness of the axiom laid down by Dr. Marion Sims, "that there can be no dysmenorrhœa, properly speaking, unless there be some mechanical obstacle to the egress of the flow, at some point between the os internum and the os externum, or throughout the whole cervical canal."* Such an unqualified assertion made by a writer of such acknowledged weight is calculated to produce much mischief, by inducing surgeons to have recourse to operative interference for the relief of dysmenorrhœa, which in many cases may be wholly unnecessary. For practical purposes I think it sufficient to class cases of dysmenorrhœa under four heads—namely: 1st. Spasmodic, or Neuralgic; 2nd. Congestive; 3rd. Inflammatory; and 4th. Mechanical dysmenorrhœa.

In spasmodic dysmenorrhœa the pain, as in the other forms, precedes the appearance of the discharge. In the majority

* "Uterine Surgery," p. 143.

of cases it is met with, either in delicate girls of feeble constitution, and leuco-phlegmatic temperament; or again, in women of full habit, especially if they lead an inactive life. I have pointed out to you from time to time, numerous examples of this form of painful menstruation in sempstresses, and in poorly-fed, over-worked servants. In these cases the flow is in general scanty, and its appearance does not bring any marked relief, the pain continuing more or less during the whole of the period; it is not, however, always equally severe, but is paroxysmal, being less so while the patient is warm, but becoming aggravated by the least exposure to cold. This form of dysmenorrhœa is by some writers described as neuralgic; its true nature, however, is very obscure, but its attacks can almost with certainty be cut short by the administration of sedatives and anti-spasmodics; and these are the remedies you should prescribe. I generally give a pill containing half a grain of opium, one of Indian hemp, and two of camphor, at bedtime, a combination which seldon fails to give at least temporary relief; or if for any reason opium is objectionable, I substitute for it two grains of the extract of conium, and in some cases the hypodermic injection of a solution of morphia and atropia* affords relief, when opium administered by the mouth or by the rectum has failed.

When the attacks have become habitual, and the patient is consequently obliged to have recourse regularly to the use of medicines to obtain relief, I usually direct her to have by her, ready for use, a mixture containing two drachms of sulphuric ether, half a drachm of the liquor opii sedativus, three drachms of the tincture of hyoscyamus, one drachm of the

* The following is the formula I use in such cases: Acetate of morphia, three grains; solution of atropia, four drops; water, one drachm;—five drops of this contain one quarter of a grain of morphia, which is the largest dose should be administered on the first occasion.

hydrate of chloral, two drachms of the spirits of chloroform, and water sufficient to make a six-ounce mixture; of this she should take a tablespoonful every two hours. Sometimes five grains of lupuline, to be taken in the form of a pill, thrice a day, from the time the first symptom of the approaching paroxysm is perceived, will stave off the attack altogether. The patient should also try the effect of a warm hip bath, taken every night at bedtime; and if prevented by the pain from sleeping, have a full dose of the hydrate of chloral. This treatment is, however, only palliative, and as the cause generally lies in some fault of the constitution, or system at large, our object should be to correct that condition, by treatment carried out during the interval between the menstrual periods; if you can detect symptoms of imperfect digestion, their removal is sometimes followed by relief of the dysmenorrhœa, while if the patient be anæmic, the exhibition of iron, or sometimes of arsenic, is of the greatest use. I am convinced, however, that many cases of spasmodic dsymenorrhœa are due to congestion of the lining membrane of the uterus, and that this is specially the case in women of full habit, who lead indolent lives, and in whom great benefit follows from the adoption of more abstemious diet, and more active habits, together with occasional use of saline purgatives.

In congestive dysmenorrhœa, the ovaries even more than the uterus are commonly engaged, though the latter organ frequently participates in the abnormal congestion. In it, the paroxysm is preceded by a feeling of weight and tension in the ovarian regions, by a sense of fulness, if not of pain, in the mammæ, and sometimes by headache. The attacks may not unfrequently be averted by the use of saline purgatives taken immediately before their anticipated return; and if the case be of any standing, by the administration of the

bromide of potassium, in from a twenty to thirty grain dose, three times a day. This treatment, or that of a similar character, directed to relieve or prevent the ovarian irritation, will generally prove successful.

Inflammatory dysmenorrhœa is a common affection, and the sufferings due to it are often very acute; the pain, however, is generally relieved by the appearance of the menstrual flow, a fact capable of easy explanation, for the loss of blood relieves the congestion which has existed, just as it would a similar condition existing in any other part of the body. In this form, the uterus, or at least its lining membrane, is in a state of chronic inflammation; sometimes also there is associated with it an ulcerated condition of the cervical canal; sexual intercourse is generally painful, this being due to extreme sensibility of the cervix, a not uncommon result of chronic inflammation of that part of the womb. In the spasmodic form of dysmenorrhœa, the pain is nearly always referred to the back, or to the lower portion of the abdomen. In inflammatory dysmenorrhœa, on the other hand, it is often more intense along the edge of the false ribs on the left side, shooting up to the shoulder, and down to the ovary of that side; pressure, too, over the ovary causes pain.

Now to what is all this suffering due? Are we to believe, as is held by many, that it is caused by retention of the menstrual discharge and consequent distension of the uterus by fluid, a result supposed to be due to the closure of the os internum, by the swelling of the mucous membrane, which occurs in consequence of the venous congestion always present at the commencement of each menstrual period? That this may be a cause of painful menstruation I admit, but that it is a very frequent one, I much doubt. The history of the following case is very instructive, and bears on the

point under consideration. The patient, a lady, æt. twenty-eight, who has borne five children, the youngest but fifteen months old, recently came under my care; her sufferings date back several years, during which time she has been twice confined. She suffered from pain over the uterus, shooting up under the left breast and round to the back, for two or three days before the menstrual period, which always appeared regularly. She experienced great pain during the first day of the flow, then it gradually subsided, and she enjoyed comparative ease for a time. Sexual intercourse has been for a long time back attended with pain. She did not complain of the introduction of the finger into the vagina, but the moment it touched the cervix, she cried out, stating, however, that the pain this caused was quite different from that experienced at the menstrual period. The sound passed with the greatest facility through the os internum, but though there was no obstruction to its passage, the moment it reached that point, she suffered the greatest agony; and though she had been previously free from it, at once experienced the peculiar shooting pain, from which she suffered so much during the menstrual period.

Now this case throws some light on at least one variety of inflammatory dysmenorrhœa. No obstruction existed here, yet menstruation was excessively painful, and paroxysms of pain, exactly similar to that from which she suffered during menstruation, were caused by the passage of the sound through the os internum. I believe that this patient was suffering from chronic endometritis; that the mucous membrane lining the lower portion of the cavity and the os internum was specially engaged; that when the uterus became congested, as occurs at each monthly period, this inflammatory condition being necessarily aggravated, caused the acute pain from

which she suffered, and that this was relieved, when the flow set in, as other congestions are relieved, by local depletion. I think further, that the sufferings experienced by many women at each catamenial period, are not mechanical, but are due to congestion of the portion of the lining membrane of the uterus indicated, the catamenial congestion rendering acutely sensitive a part which, though in an unhealthy state, was not before the seat of pain. It is quite possible, and indeed very probable, that the swelling and thickening of the mucous membrane, which takes place when this congestion occurs, may in numerous cases be sufficient to close the os internum, and thus actually oppose a mechanical obstruction to the exit of the menstrual discharge; but I cannot concur in the commonly held idea, that it is the general cause of painful menstruation, or agree with Dr. Marion Sims, who says, "that if there be much pain either preceding its eruption, or during the flow, there will generally be a physical condition to account for it, and this will be of a nature to obstruct mechanically the egress of the fluid from the cavity of the womb. The obstruction may be the result of inflammation and attendant turgescence of the cervical mucous membrane, whereby this canal becomes narrowed merely by the tumefaction of its lining coat; but by far the most frequent cause of obstruction is purely anatomical, and mechanical."

Now in the case I have just alluded to, the canal of the cervix was so patulous that I do not think it possible the lining membrane could swell to such an extent as to close the passage; and if the patient's sufferings were in this case due to mechanical causes, why should the passage of the sound reproduce so exactly the pain of the menstrual period? In my opinion it was caused by the os internum being in an unhealthy condition, and that therefore anything which in-

creased the existing irritation, whether that were the passage of the sound, or the congestion consequent on the approach of the menstrual period, equally caused pain; in fine, while admitting the mechanical theory as serving to explain the symptoms presented in a certain proportion of cases of dysmenorrhœa, I deny that it does so, even in the majority.

The occurrence of congestion and inflammation causing dysmenorrhœa is of course well known, and in the foregoing remarks I merely desire to point out that in my opinion the seat of pain is in such cases at, or immediately beyond, the junction of the body with the cervix uteri; that the cause of the pain in many instances is endometritis, and that it is not necessarily due to any actual obstruction to the exit of the menstrual discharge.

The treatment of inflammatory dysmenorrhœa includes three indications.

1st. The removal of all causes keeping up the existing irritation. Foremost among these is the abstinence from sexual intercourse, for not only does the act itself generally cause pain, and therefore must be injurious, but the occurrence of conception is to be specially avoided. Horse exercise, fatiguing walks, or even household occupations which necessitate much standing, should be given up, while the occurrence of constipation is to be guarded against.

2nd. The inflammatory condition of the uterus is to be relieved by local depletion, either by means of leeches applied before the menstrual period, or, by puncturing the cervix uteri and encouraging the bleeding: this latter treatment you have seen me carry out repeatedly with considerable benefit. It is not suitable to the case of young unmarried girls, as it necessitates the use of the speculum. In them the leeches should be applied to the inside of the thighs, but in

married women, to the cervix uteri itself; mild purgatives should also be from time to time administered. When by these means you have succeeded in relieving the congestion of the uterus, considerable benefit will be derived from blisters applied over the sacrum, or to the abdomen a little above the pubes.

3rd. If the case be of long standing, and that the symptoms though relieved, do not entirely disappear, showing that a certain amount of endometritis still exists, I recommend you to cauterize the cervical canal, and even in many cases the whole interior of the uterus, with strong nitric acid. I shall on a future occasion explain to you the mode of carrying out this safe, and indeed painless treatment. One other method of relieving these forms of painful menstruation depending on chronic inflammation of the uterus, is so simple and so frequently efficacious, that I must allude to it, namely, the use of glycerine. I do not think it suitable to the early stages of the affection, but it often answers admirably after you have carried out for some time more active treatment. It is specially useful if, from the presence of ulceration or any other cause, you have applied any strong caustic to the cervix, and as sometimes happens, an unhealthy, irritable sore remains. In such cases a pledget of cotton soaked in glycerine and introduced into the vagina, will in twenty-four hours perfectly clean the sore, while the copious watery discharge which it produces will greatly relieve the local congestion. In chronic cases, the injection of a few drops of pure glycerine into the cavity of the uterus, two or three times a week, as recommended by Dr. Marion Sims, is very useful, provided the cervical canal and the os internum be so patulous as to allow a free escape of the fluid. I may here add, that glycerine is the only fluid I ever inject into the uterus,

excepting in cases of hæmorrhage which threaten to terminate fatally. I have met with but little benefit from the exhibition of medicines in inflammatory dysmenorrhœa. Where ovarian excitement exists, bromide of potassium in twenty-grain doses, three times a day, sometimes does good; the bichloride of mercury in small doses, and continued for a considerable time, has been recommended by several writers; for myself I must say it has disappointed my expectations. Purgatives, especially the saline, seem to me the only medicines capable of producing real benefit; these to do good, should be exhibited just before the menstrual period.

It remains for us to consider those forms of dysmenorrhœa which depend on mechanical causes. Of these, there are three varieties—namely, those in which the cervical canal is so flexed as to obstruct the escape of the menstrual discharge; secondly, those in which inflammation or congestion of the lining membrane exists to such an extent, as to cause temporary closure of the canal, or of the os internum; and, thirdly, those in which from some congenital malformation, or acquired cause, the os internum, or the cervical canal throughout its entire length, is permanently narrow and constricted. To this last may be added those cases in which fibrous tumours are met, in connexion with, and probably often causing dysmenorrhœa.

Painful, or difficult menstruation, is frequently met with in women in whom the uterus is flexed, but though flexions of the uterus may, and certainly do, interfere with the exit of the menstrual flow, they seldom do so unless the flexion be complicated by the existence of chronic inflammation, or the presence of a fibroid. In such cases we should certainly endeavour to relieve the flexion, and see if by replacing the fundus in its normal position, and supporting it there by a

pessary, we can relieve the patient before having recourse to surgical means, which are less suitable in this than in any of the other forms of mechanical dysmenorrhœa.

I have already so fully explained my views as to the chief cause of the dysmenorrhœa, in cases of inflammatory swelling of the lining membrane of the uterus, that I have but to repeat, that though not in my opinion of frequent occurrence, cases are met with, in which the os internum, or some portion of the cervical canal, becomes so narrowed in consequence of the tumefaction of the parts, as to present a mechanical impediment to the discharge of the menses. In such cases, if the treatment I have already recommended fail, I have no hesitation in having recourse to surgical treatment, with the view of procuring relief; indeed it is obvious, that an operation which divides the cervix so freely as does that introduced by Sir James Simpson, must be calculated to give permanent relief to the congested organ. I only say again that the operation should not be had recourse to till other means have failed. I may here take the opportunity of saying once for all, that I object to the use of any of the metal instruments, which have been suggested for the purpose of dilating the cervix. Their use is attended with danger, as they act too rapidly, and sometimes rupture the uterine fibres. Several cases of severe inflammation, and even of death, are recorded as having followed their use; while the sea-tangle is perfectly harmless.

This mode of treatment is, moreover, most uncertain, and is not only slow, but also painful. Of the instruments invented for this purpose, Priestly's Dilator (Fig. 5) is probably the best. I occasionally use it in cases in which difficulty occurs in getting a sea-tangle tent through a very narrow

os internum; but even then, I only expand the dilator to a very trifling extent.


Fig. 5.

A contracted os, looking almost like a pin-hole, and leading up to a narrow cervix uteri, is not unfrequently seen; this condition is almost invariably associated with sterility, and very often with dysmenorrhœa also. You saw last week a very good example of this in the case of the young woman who sought relief for the latter affection. Menstruation is with her both painful and scanty; the os uteri is so small as hardly to admit the point of a probe; and there can be no doubt but that the cervical canal is unduly contracted. I think such cases as hers are fair subjects for operation, for no other treatment will be productive of permanent benefit; but beware of holding out hopes to your patient, that by submitting to the operation, she will gain more than relief from the suffering caused by the dysmenorrhœa. When the operation has been performed for the cure of sterility, it has in general, as far as my experience goes, resulted in failure; in other words, it is in my opinion a legitimate proceeding, if performed with the view of curing cases of dysmenorrhœa in which other treatment has failed, or is inapplicable; but that it is not warranted in cases of sterility, because the narrow os and contracted cervical canal

are not the cause of the sterility, but merely an index of some congenital condition, or defect in the uterus itself, which hinders conception. What that defective condition may be we do not at present know.

But the patient I have first alluded to is averse to undergoing any operation, and I have therefore introduced a slender and short stemmed galvanic pessary. She has worn it for three weeks, and it has already been productive of marked benefit; for she tells you, that during the menstrual period, which has just passed, she was free from pain, and that the flow continued for five instead of two days.* You saw that I had some difficulty in introducing it, mainly because the uterus is slightly ante-flected. I had accordingly to expose the os with the duck-bill speculum, then to seize and draw down the cervix with a fine hook, and while the womb was thus fixed, to slip in the stem of the pessary. You must always adopt this method, when difficulty occurs in the introduction of these instruments. I have known much good to result in such cases as the foregoing from this simple treatment; it is at least worth trying before advising that an operation should be performed.

The use of the stem pessary is also specially indicated, where painful menstruation exists, with either retro-flexion, or ante-flexion of the uterus, for the stem not only renders the canal patulous, but by straightening the cervix, favours the escape of the discharge. Unfortunately a certain amount of endometritis commonly exists in such cases, and this frequently prevents the stem being tolerated. To meet this difficulty, Dr. Greenhalgh has invented a soft flexible stem

* This patient continued for some time to derive relief from wearing the pessary, but on removing it all her bad symptoms returned, therefore after the lapse of many months, I decided on dividing the cervix. The operation proved successful.

pessary,* made of India-rubber, that can sometimes be worn with comfort, when a rigid one could not be borne.

But a large percentage of the cases we meet with in practice derive no permanent benefit whatever from any form of palliative treatment, nor can any favourable result be anticipated, because some portion of the cervical canal, either at the os internum or throughout its entire length, is contracted. In some patients the cervix is conical, and terminates in a very small circular os uteri, "the pin-hole" os uteri, as it is termed, the cervical canal being generally much contracted. Dr. Barnes is of opinion, that in such cases the obstruction is mainly due to the small size of the os itself; he consequently rests satisfied with an operation which divides the cervix, but does not divide the os internum. I much doubt, however, if the os internum is ever of its normal size where the os externum and cervical canal are contracted. Certainly the exceptions to this being the rule must be rare. I, therefore, in all cases divide the os internum as well as the os externum and vaginal portion of cervix.

Now, with respect to the operation itself, we are indebted for its introduction to Sir J. Simpson, who for a time practised it very extensively, though I believe that before his death his views on this point were considerably modified, and that he did not perform it nearly so frequently as he had done at an earlier period of his career. His method of performing the operation was by passing an instrument termed a *bistourie caché* through the canal of the cervix, and within the os internum. It contained but one blade, which, when the instrument had penetrated to the requisite depth, was made to protrude, the extent of the protrusion being regulated by a screw. The incision commenced at the os internum, and as the instrument was withdrawn it incised gradually and more

* Manufactured by Arnold & Sons, 34 West Smithfield, London.

deeply the substance of the cervix, till it divided the vaginal portion quite through; the instrument had then to be turned, re-introduced, and the other side divided in like manner. This re-introduction is very objectionable, and consequently various knives have been invented with the view of obviating it. Those proposed by Dr. Savage and Dr. Greenhalgh are both good instruments. I generally use the former (Fig. 6). It is furnished with two blades, the cutting edge of each being directed outwards; but as the back of each blade, when the instrument is closed, projects beyond the cutting edge of its fellow which it thus overlaps, its introduction into the cervix can be safely effected, but it is frequently necessary to dilate the cervical canal before this step can be effected. This indeed is generally necessary no matter what instrument is used; one piece of sea-tangle will however open the canal sufficiently for the purpose. You should then, having exposed the os by means of the duck-bill speculum, and seized one lip with a hook, to steady the uterus, proceed to introduce the knife slowly, taking care that it does not pass unnecessarily far into the uterus; the blades are then expanded slowly, and only to a limited extent, previously decided on, for if this precaution be neglected, you will divide the os internum too deeply, a proceeding which may cause alarming hæmorrhage, and is nearly certain to be followed subsequently by such great

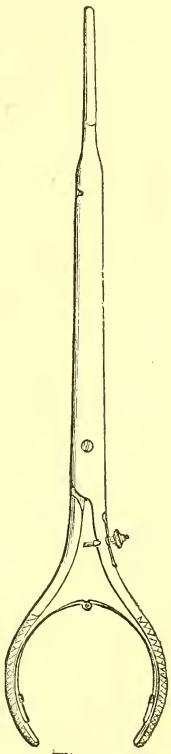


Fig. 6.

eversion of the lips of the womb, as to leave the neck patulous and gaping to an excessive degree. This condition exists in a patient at present under my care, who was operated on more than ten years ago. The metrotome, the blades being kept expanded, is now withdrawn, but I think it better not to divide the vaginal portion of the cervix with them, but to complete this part of the operation subsequently by means of Barnes' Scissors (Fig. 7).

With this object, the longer blade, which terminates in a probe-pointed extremity, is introduced into the cervical canal and through the os internum, the other blade is applied to the vaginal portion of the cervix; the part included between them is then to be divided by the closure of the blades. When the one side of the cervix has been divided, the blades have to be turned, and the other side of the cervix divided in a similar manner. My reasons for completing the operation in the manner described are, that to enable the blades of the metrotome to cut through the vaginal portion of the cervix, they must be expanded to a degree which, without great care, may permit of their incising the os internum to a dangerous extent; while even when so expanded, a sufficient division of the lower segment of the cervix is not always made, and,

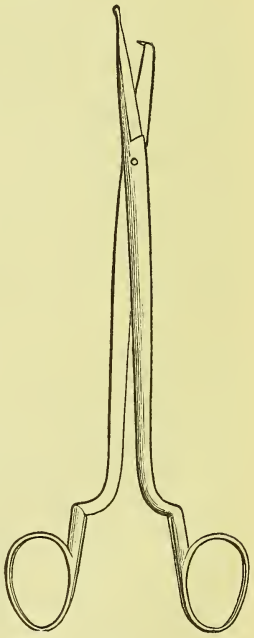
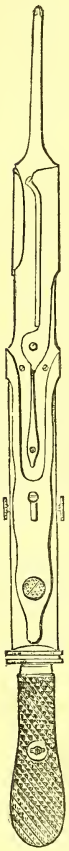


Fig. 7.

moreover, the risk of hæmorrhage occurring is much lessened, if not indeed altogether avoided, by following the method I adopt.

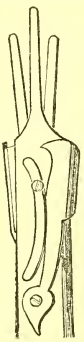


Closed.
Fig. 8.

Dr. Greenhalgh's metrotome (Fig. 8) is preferred by many. It was, I believe, the first bi-laterally cutting metrotome invented, and is very ingeniously constructed. By it the entire operation is completed at once. It is easy of introduction, cuts laterally outwards, and the extent of the incision can be regulated with great nicety.

Dr. Marion Sims varies the operation by dividing first one, and then the other side, of the vaginal portion of the cervix with a pair of bent, narrow-bladed scissors; he then presses a narrow-bladed knife through the os internum, and cuts from within outwards.

The operation of dividing the cervix uteri is not devoid of danger; it has, though not in my practice, been followed by fatal results. I have known very alarming hæmorrhage to occur both at the time, and also some hours subsequently. You should therefore be always prepared for this contingency, and be provided with a solution of the perchloride of iron in glycerine. With this I was in the habit of invariably brushing over the divided surface. I have now given up the practice, because I find if the operation be performed



Blades Expanded.
Fig. 8.

in the manner I describe, there is little if any risk of hæmorrhage; but should hæmorrhage occur, a pledget of cotton saturated with it should be inserted into the cervix, and the vagina then plugged. The operation itself seldom causes pain, and, if the woman be healthy, the chance of inflammation following is not great; still extreme care should be taken to guard against such occurring, and she should be kept in bed for several days. There is often a great tendency in the incisions to unite; to prevent this, Dr. Coglan has suggested the insertion of a thin roll of lead; this answers the purpose very well. It is sometimes necessary to introduce and leave in the cervix an expanding spring stem, as suggested by Dr. Greenhalgh (Fig. 9), but not unfrequently these precautions may be dispensed with. Dr. Graily Hewitt recommends, with the view of preventing contraction, and at the same time of keeping the canal straight, that the patient wear for some time subsequently an ebony stem pessary, a proceeding which in many cases would doubtless be useful.

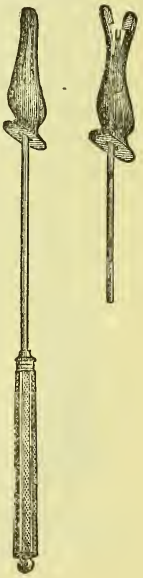


Fig. 9.

Although I have warned you against performing the operation of dividing the cervix uteri unnecessarily, I feel equally bound to impress on you the necessity of carrying it out whenever suitable cases occur in your practice. It is not merely that by doing so you afford your patient the best chance of escaping from constantly recurring pain, although that alone in many cases is a sufficient reason for having recourse to so safe an operation, but, moreover, long continued dysmenorrhœa is likely to produce

very grave consequences. Sterility, metritis, endometritis, terminating in permanent enlargement of the uterus, and perhaps giving rise, in addition to other distressing symptoms, to the occurrence of profuse menorrhagia, may follow, till the patient, worn out by long-continued suffering, becomes a confirmed invalid, or sinks into a state of morose despondency. Such most likely would have been the result in the case of the young girl, M. W., on whom you saw me recently operate. Her sufferings, for several days at each menstrual period, were extreme; she would roll on the floor in agony, and this had been the case since the first appearance of the catamenia, three years ago. On examining her I found the cervix uteri to be abnormally small, and apparently imperfectly developed. Much difficulty was experienced in introducing the sound, so contracted was the cervical canal; and indeed it required the exercise of some skill to detect the os uteri, it was so exceedingly small. We found it necessary to dilate the cervical canal in this case, with a tent of sea tangle, before attempting to introduce the metrotome. The result of the operation has been very satisfactory, for the girl has ever since enjoyed freedom from the excruciating pain she previously had periodically suffered. I should add that I had tried the effect of a stem pessary with her before having recourse to the operation, but she could not tolerate the presence of one.

LECTURE V.

Menorrhagia—Definition—Causes of—Constitutional—Local—Subinvolution—Treatment of—Uterine porte caustique—Plugging vagina—Medical treatment of.

I PROPOSE to-day, gentlemen, to draw your attention to the subject of menorrhagia, one of the greatest importance, both on account of its frequency, and of the serious consequences which follow its occurrence.

The term "*Menorrhagia*," strictly speaking, means profuse menstruation, the ordinary menstrual period being prolonged, or the quantity of blood lost during a menstrual period of average duration being in excess of what is normal. In general both these conditions are present, the period being prolonged, and the quantity of blood lost being excessive; but we not unfrequently meet with cases in which a discharge of blood takes place from the uterus during the interval between the menstrual periods; to such attacks of hæmorrhage the term "*Metrorrhagia*" is by some applied.

Let me first of all impress on you that menorrhagia is not a disease; it is only a symptom of a diseased condition, whether it be of the system at large, or of the organs of generation only. It is therefore incumbent on you, in dealing with every case of menorrhagia which may come under your observation, to endeavour to determine, before you attempt to treat it, on what the symptom depends. I know of no affection in the treatment of which professional character is so frequently lost, from want of due care in attending to this important point.

Now the causes on which *menorrhagia* may depend are twofold—constitutional and local. I shall speak briefly of the former class first, and subsequently enter at length into the consideration of the latter, as being those which are more immediately within the province of the obstetric physician. The general constitutional causes which predispose to menorrhagia are not very numerous, nor is their influence very distinctly marked. The following are the most common:—

(1.) Debility arising from any cause, but more especially if the result of prolonged lactation, is, I think, that to which it is most frequently due. In such cases menorrhagia often assumes a very aggravated form. Thus a delicate woman continues to nurse, although menstruation has reappeared, and the patient, weakened by the double drain, rapidly loses health and strength. In such cases, if nursing be given up altogether and tonics be administered, of which strychnia, alone or combined with iron, is generally the most useful, a rapid improvement in the general health, and a marked diminution in the quantity lost at each monthly period, often follows.

(2.) Again, profuse menstruation is seen in young women of full habit but of lymphatic temperament. I have met with several well-marked instances of this; in one especially the tendency to menorrhagia is so great, and so difficult to restrain, that on more than one occasion I feared that as a last resource, I should be compelled to plug the vagina. This patient is quite a young girl, and looks the picture of health. In her case, the only remedy which seemed to exert any decided influence in checking the great loss, is the application of hot water bags to the spine, as recommended by Dr. Chapman—a mode of treatment well worthy of a trial.

(3.) Again, as age advances and the climacteric period of

life approaches, women are liable to menorrhagia, sometimes of a very aggravated character; not unfrequently some months elapse without the normal discharge appearing, and then it comes on so profusely, as to give rise to the suspicion that pregnancy had existed and had terminated by abortion. The same train of symptoms is not very unfrequently met with in recently married women; from the non-appearance of the catamenia at the regular period, they naturally believe themselves pregnant, till, after the lapse of some weeks, they are unpleasantly undeceived, by the return of menstruation in an aggravated form; in both cases, the cause is probably the same—namely, temporary congestion of the uterus and, probably, of the ovaries. The administration of mild saline purgatives, and in the former class of cases, if the attacks recur, the exhibition of ergot and strychnia will generally check the excessive loss, or prevent its recurrence.

(4.) Disease of the heart is sometimes attended by menorrhagia; this evidently depends on congestion, the results of the retardation of the return of the blood to the right side of the heart, and occasionally the loss of blood in these cases seems to give temporary relief. A good example of menorrhagia depending on this cause, was seen in the case of a woman, long under observation in this hospital, who for years laboured under mitral obstruction, and in whom the attacks of profuse menstruation sometimes assumed an alarming aspect.

(5.) Analogous in nature to the class last-mentioned are those cases which depend on chronic hepatic disease or hepatic congestion. However, as mentioned in another lecture, hepatic congestion may cause a diminution, rather than an increased flow, of the menstrual discharge.

(6.) Menorrhagia, too, is met in connection with that form

of renal mischief known as Bright's disease; but the cause then is different, for it is not due to congestion, but to the fact of the blood being in this disease deprived of its albumen, and consequently in a condition favourable to exudation through the walls of the capillaries; but all these affections fall within the province of the regular, rather than of the obstetric, physician, and therefore I must leave you to learn from my colleagues, the mode in which menorrhagia depending on these causes should be treated.

The local conditions causing profuse menstruation are numerous and very important—they are

1. Subinvolution of the uterus.
2. Granular ulceration of the os and cervix uteri.
3. Inflammation and congestion of the membrane lining the cavity of the uterus, and a granular condition of that membrane.
4. Retention within the uterus of a portion of placenta or of the fœtal membranes.
5. Congestion of the uterus and ovaries.
6. Polypus of the uterus.
7. Fibrous tumours of the uterus.
8. Inversion of the uterus.

This is a long list, and yet the lesions enumerated in it are all, with the exception of inversion, of frequent occurrence, and all frequently cause menorrhagia. Indeed I think we should add cancer to it. Some authors, no doubt, object to cancer being considered a cause of profuse menstruation, and in the majority of the cases of this terrible disease, the discharge to which it sooner or later gives origin, is not in any way connected with menstruation, and therefore to term it menorrhagia is incorrect; but in others, especially in cases of epithelioma, menstruation is, in the first instance, augmented, and the term is then correctly applied. I think therefore

that it is better to speak of cancer, as a possible cause of menorrhagia. I must now proceed to call your attention to each of the foregoing conditions, somewhat more in detail.

Subinvolution of the uterus is a far more common cause of menorrhagia than is generally supposed: indeed, in married women, or in those who have been at any time pregnant, profuse menstruation is probably more frequently dependent on this condition, than on any other.

When we speak of subinvolution of the uterus, we mean that the process by which the womb regains its original size subsequent to delivery, or abortion, has been from some cause retarded, or arrested; this process has been termed involution, and when it is incomplete, we talk of the uterus as being in a condition of imperfect involution, or, more commonly, of subinvolution.

The involution of the uterus should be complete within a few weeks from the date of delivery. It is one of the most remarkable phenomena which occur in the human body. The uterus, immediately before the expulsion of the fœtus, measures about fourteen inches in length, and weighs twenty-five ounces, and often, indeed, even more. Immediately after, its size is reduced to considerably less than one-half its former bulk, its weight also being proportionately diminished; while, if the process proceed regularly, and unchecked by any cause, the womb will, after the lapse of five or six weeks, measure about three inches in length, and weigh but two ounces. The first step in this process is, that both the supply of blood to the uterus is checked and the circulation of blood through that organ interrupted, by the contractions of the muscular fibres of the uterus, a process which commences the moment labour terminates, and goes on in a more or less painless manner for some days subsequently; while, at the same time, fatty degeneration, and disintegration of tissue,

on the one hand, and absorption on the other, rapidly complete the work of reducing the uterus to its normal size, and restoring its compactness of tissue.

But you can easily understand, that numerous causes may interrupt this process; thus in weakly, debilitated women, the uterine contractions may not be sufficiently powerful to check the augmented blood supply, consequently the nutrition of the organ may continue almost as active as previous to delivery, and accordingly the uterus will remain in a state which may be considered as one of permanent hypertrophy. Instances of this are very numerous. An exactly similar condition may be brought about in healthy, muscular women, if they leave the recumbent posture too soon after delivery, and, as many, especially of the lower orders, do, return to their ordinary occupations, long before the uterus has regained its normal size. Again, pelvic inflammation in any of its varieties, is a common cause, interrupting, and often arresting, the involution of the uterus. Subinvolution may follow on abortion, even when it occurs in the early months of pregnancy, a fact you should not overlook; indeed my experience leads me to think it much more likely to occur after abortion than after labour completed at the full term. But from whatever cause arising, subinvolution soon gives rise to very troublesome and distressing symptoms, of which menorrhagia is the most prominent and alarming, the one, too, for the relief of which we are most frequently consulted.

I cannot better exemplify this affection, than by calling your attention to the case of C. D., who is still in hospital. She is aged forty-three, has had six children, and has never enjoyed good health since the birth of the last, ten years ago, shortly after which, she noticed that menstruation was much more profuse than formerly; for a long time back

each period had lasted for not less than ten or twelve days, returning after an interval of only a fortnight. On admission, she complained of debility, of great pain in her back, of irritability of the bladder, and consequent straining and tenesmus, she also suffered from profuse leucorrhœa. The effects of this long continued drain was manifest in her appearance; you must have remarked how perfectly ex-sanguine she was. I expressed the opinion from the history of the case, dating as it did from immediately after labour, that the menorrhagia would probably be found to depend on subinvolution, and that the irritation of the bladder was reflex, depending on an unhealthy condition of the mucous membrane lining the uterus, which would probably be found to be rough and granular; this opinion was confirmed by the fact, that the os and cervix uteri were healthy, while the sound proved the uterus to be elongated to the extent of about three-quarters of an inch. An exploration of the uterus verified the diagnosis. I shall by-and-bye explain the mode of accomplishing this, and refer to the treatment you saw me adopt in the case; for the present it is sufficient to say, that she will leave the hospital in a day or two, after the stay of but three weeks, perfectly cured of an affection of ten years' standing.

But the mischief resulting from imperfect involution of the uterus does not end here, for this abnormal state of the womb predisposes to the occurrence of that unhealthy condition known as granular ulceration of the os and cervix uteri, a condition which greatly augments the tendency to menorrhagia; thus the two causes which I have placed at the head of the list may be present in the same patient. The case of M. F., recently in No. 6 ward, afforded a well marked instance of this. She has had twelve children, and is now forty-eight years of age. She stated, that ever since the date of the last confinement, six years ago, menstruation

had gradually become more profuse, the flow continuing for a longer time than usual, the interval between the periods being correspondingly shortened. During the interval she suffered from profuse leucorrhœa, and was, as a result, greatly debilitated.

On examining her, extensive abrasion of the vaginal portion of the cervix uteri was found to exist, the os was patulous, the lips everted, and the mucous membrane lining the cervical canal could be seen in a thickened, highly vascular condition; the uterine sound penetrated to the depth of three and a-half inches. This patient, too, was discharged, after a residence of a few weeks in the hospital, perfectly cured. She occasionally appears among the out-patients, but not from any return of the menorrhagia. I treated both these cases alike, by the application to the interior of the uterus, in a manner I shall hereafter explain at length, of the fuming nitric acid, with most marked success.

In the foregoing case, subinvolution was manifestly the primary cause of the menorrhagia, the ulceration being altogether secondary; but often subinvolution exists alone or, on the other hand, ulceration may exist alone, either condition being fully sufficient to give origin to severe menorrhagia. As an instance of the former, the following serves as an example:—F. L., æt. twenty-four, married about a year, is a delicate young woman, of lymphatic temperament; menstruation has always been profuse, especially if she takes walking exercise or exerts herself during the flow. She became pregnant after the occurrence of the second menstrual period subsequent to her marriage, but, having imprudently taken a long and fatiguing walk, she aborted at the eighth week. The two subsequent menstrual periods were so profuse as to reduce her to a state of extreme debility. Ergot, gallic acid and numerous other astringents were administered,

but they failed to check the hæmorrhage. This was her condition when I saw her. On examining her, I found the uterus to be considerably elongated, the sound passing to the depth of more than three inches; there was not any ulceration. The history of the case being altogether against the supposition of the existence of a polypus, I came to the conclusion that the menorrhagia depended on subinvolution; in fact, that the uterus had never regained its normal size and tone since the miscarriage which had taken place two months previously. I therefore decided on carrying out a plan of treatment, the value of which you have had, in the wards of this hospital, repeated opportunities of judging—I mean, the introduction up to the fundus of the uterus of ten grains of the solid nitrate of silver, which is left to dissolve there. This I accordingly did. It produced considerable pain, that lasted for five or six hours, but no further unpleasant results followed. I confined the patient to bed for three days, and then allowed her to go about. Menstruation appeared at the regular time, and was moderate in quantity. She became pregnant immediately after, and is now approaching the full term of utero-gestation.

I wish to call your attention specially to this case, first, as illustrating the occurrence of subinvolution as a result of abortion, a fact which, though mentioned by Sir J. Simpson, has been overlooked by many; next, as showing the dangerous menorrhagia which may depend on this condition of the uterus; and, thirdly, as proving the excellent results which follow the treatment I adopted. This point I wish specially to impress on you. You will find that ergot, gallic acid and indeed all other medicines, will frequently fail to check menorrhagia depending on subinvolution, and that you must have recourse to treatment directed to the uterus itself. You must stimulate that organ to set up that healthy action by

which it regains its normal size after pregnancy has terminated, a process to which, as I have already told you, the term "involution" is applied. With this view, I unhesitatingly advocate the adoption of the treatment I practised in the preceding case. I know of no other so efficacious. The mode of carrying it out is simple. You introduce the instrument, which I now exhibit (Fig. 10) into the uterus just as you would an ordinary uterine sound. It is Sir James Simpson's "Uterine Porte-caustique." It consists, as you see, of a hollow silver tube, in size and shape closely resembling a sound, and it contains a flexible stilette which fits it accurately. As soon as you are satisfied that its point has reached the fundus of the uterus, you withdraw the stilette, and push up through the instrument, by means of the stilette, a piece of solid nitrate of silver, reduced to the requisite size and weight, till it is fairly lodged in the cavity of the uterus. In doing this there is but one caution requisite—namely, that as soon as the piece of nitrate of silver has reached the extremity of the porte-caustique, and before it is finally pushed out of the instrument (a point you can always be certain of by observing how much of the stilette remains still unintroduced), you should withdraw the instrument to the extent of about half an inch; for if this precaution be not observed, it is possible that the nitrate of silver might be forced into the substance of the uterine wall, instead of being left free in its cavity, an accident which, though possible, is very unlikely to occur.

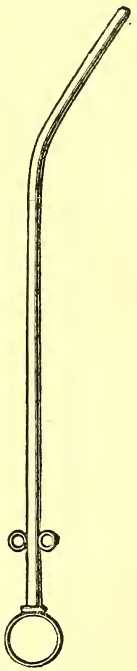


Fig. 10.

I have dwelt at some length on this plan of treatment,

because I am satisfied that its value is far from being fully appreciated. It is looked upon by many practitioners as heroic and dangerous. I believe it, and I have practised it freely for several years, to be simple and safe. I do not say that it is always sufficient, and that a cure must always result, but in my hands it has been productive of marked success, and in no single instance have I known it to produce serious symptoms. That pelvic cellulitis may, under certain circumstances, follow the introduction of the solid nitrate of silver into the uterus, is quite possible, and I should not at any time be surprised at its occurrence; but the fear of this would never deter me from carrying out the treatment, for an attack of cellulitis is of much less importance than the continuance of profuse menorrhagia. Although I have on several occasions seen cellulitis follow on the use of astringent applications apparently more mild, as yet it has not occurred in my practice after the introduction of the solid nitrate of silver. This treatment is no novelty. Dr. Evory Kennedy, many years ago, was in the habit of passing solid nitrate of silver into the cavity of the uterus; but he did not allow it to remain there. Subsequently, Sir J. Simpson introduced the method I now advocate, and invented the porte-caustique.

In the case I have related, I was asked to see the patient just as the flow, which had continued for nearly a fortnight, ceased to appear, and as a full trial had been given to ordinary means without result, and as the woman was in such a debilitated condition that a return of the hæmorrhage might be productive of very serious consequences, I seized the opportunity of its temporary cessation to carry out the treatment just detailed. Had I, however, seen her at an earlier period, I should at once have stopped the loss of blood by plugging the vagina. This is a mode of arresting the hæmorrhage, which, if properly carried out, is always safe,

and, as a temporary means, perfectly efficacious. You have seen me practice it in our wards repeatedly. Of course, in an emergency, a sponge or a pocket handkerchief will do for the purpose; but, when it can be obtained, nothing answers so well as common cotton wadding. It should be cut in strips, the full length of the sheet, and two inches wide, the paper to which the wadding adheres being left attached. These strips should then be introduced one by one, through a speculum, a piece of tape or twine being attached to the first introduced for the purpose of facilitating removal, the ends of the string being left outside the vulva. As many strips of the wadding as the vagina will contain are in this manner to be introduced, from four to six being the number usually required, according as the capacity of the vagina varies. As the strips of wadding are introduced, the speculum should be gradually withdrawn, and when finally removed, the finger should be passed into the vagina, and the wadding firmly pressed together, when, if the vagina be found not to be fully distended with the plug, more cotton should be introduced. If this precaution be not adopted, blood is very likely to ooze out between the sides of the vagina and the plug.

Thus formed, the plug is withdrawn easily, for if the ends of the last strips inserted be laid hold of by a pair of dressing forceps, and that they be rotated so as to coil the strips round them, each piece can be extracted without its breaking, while the first ones introduced are withdrawn, by means of the strings attached to them, without trouble.

Any substance introduced into the vagina rapidly becomes very offensive, but this can be in a great degree remedied by smearing the strips of cotton freely with glycerine. The plug should in all cases be withdrawn after the lapse of twenty-four hours; to be re-introduced for a similar period if

the hæmorrhage continue. Should you be unable to obtain wadding, loose rolls of cotton or of tow will answer the purpose very well. You must however be careful to attach a string to each of the rolls first introduced, and to keep the ends outside the vulva, or you will experience much difficulty in removing the plug. This treatment is equally efficacious in restraining hæmorrhage depending on any of the causes I have enumerated as giving origin to menorrhagia, and should always be practised in severe cases.

Some practitioners prefer using the duck-bill speculum when plugging, but, while its use certainly facilitates the introduction of the cotton, its shape renders its removal, when once the vagina has been filled with the cotton, a matter of great difficulty. In cases of emergency, where no speculum is at hand, one may be extemporized by introducing the handle of a spoon into the vagina, and with it, drawing back the perineum, or the index and middle finger of the left hand may be introduced, and made use of to dilate the orifice of the vagina; for if this be not done by some means the introduction of the plug is not only a matter of difficulty, but will cause much pain to the patient. Dr. Greenhalgh, instead of using sponge or cotton, employs three india-rubber balls, which are made of three different sizes and covered with spongio-piline; one of these is introduced, collapsed, into the vagina, and then inflated to the required extent; they are easy of introduction and removal, and are worn without discomfort. Dr. Barnes advocates plugging the os itself, with sea-tangle or sponge tents, in preference to filling the vagina with the plug. Doubtless, his method is the most efficacious, but the difficulty of effecting it will render its general use unpopular.

You are not, however, to infer that all cases of subinvolution are to be treated on one stereotyped plan, and that you must

in every case have recourse to the introduction of the solid nitrate of silver. Many cases will yield to milder, though slower methods, especially those in which the muscular tissue of the uterus, being in a very relaxed condition, permits the organ to remain in a state of extreme engorgement; under such circumstances, the frequent abstraction of small quantities of blood from the womb (which should be effected by puncturing the cervix), and the administration of strychnia and ergot, with or without the addition of iron or digitalis, as the patient's condition may indicate, will often prove eminently useful. The abstraction of blood, by relieving the engorgement, permits the contraction of the muscular fibres of the uterus and favours the action of the ergot and strychnia on them. The case of Mrs. M., who for some time past has been a regular attendant at the out-patient department, affords a good example of this treatment. She has had six children, and her illness dates from a miscarriage which occurred four years ago. She has not been pregnant since, but has suffered from severe pains in the back and loins. Menstruation has gradually become more and more profuse, and now lasts for fourteen days. On examining her, the uterus was found to be much enlarged, the sound penetrating to the depth of three and a half inches, it was also retroflected, and the cervix was soft and engorged. This patient would not agree to come into hospital, so it was therefore necessary to select a mode of treatment which would not interfere with her attending to her ordinary household duties. I accordingly, on the 20th May, punctured the cervix with Dr. Hall's lancet-shaped knife; it bled freely. On the 23rd of May she stated that she felt weak, but much easier; introduced a Hodge's pessary to support the retroflexed uterus. From that date, for several weeks, blood was regularly abstrac-

ted from the cervix by puncturing it, and her condition gradually improved. On the 24th July, I made a note that the catamenial period had just terminated; that it had lasted seven days, and that the flow was moderate in quantity; the pain in the back much less severe, and that she felt considerably stronger. During the whole of this period she had been taking ten drops of the tincture of the perchloride of iron, three of the liquor strychniæ and twenty of the liquor ergotæ, three times a day. On the 22nd of August she reported that another period had just passed and that it had lasted only three days; the uterus was now of its normal depth. The simple treatment practised in this case was eminently successful. The uterus returned to its normal size and menstruation became regular. Doubtless, the treatment extended over four months; but it was carried out under the most unfavourable conditions, for this poor woman continued to perform all her usual household duties, washing, cooking, &c., for her family during the whole time. Had I been able to enforce rest in the recumbent position, her improvement would have been much more rapid.

As I do not wish to have to refer again to subinvolution, I must diverge for a moment from the subject of menorrhagia, to say, that though profuse menstruation is nearly always the earliest and commonest symptom of subinvolution of the uterus, there may be exceptions to this rule, as the following case proves. A young married woman was admitted into one of our hospitals during the past summer for what was supposed to be an ovarian tumour. She had been confined about three months previously of her third child. Hæmorrhage had followed delivery. She also appeared to have been subsequently attacked by some form of pelvic inflammation. She recovered slowly and had not been able to nurse. The

lochia ceased to appear during the attack alluded to, and menstruation had not occurred since delivery. On passing the hand over the abdomen, a large moveable tumour could be easily felt lying to the left side; it was very painful to the touch. After a few days, this woman was discharged from hospital, her case being considered unsuitable for any kind of surgical interference. As, however, she continued to suffer much distress, she presented herself among the out-patients here, when a careful examination, made with the aid of the uterine sound, proved the tumour to be the uterus, much enlarged and elongated; in fact, it was a case of subinvolution with temporary suppression of menstruation. I admitted her into hospital, and introduced ten grains of nitrate of silver into the uterine cavity in the manner already described. This, as usual, caused some pain for a few hours, but it had the desired effect. It stimulated the uterus to set up the process of involution which the attack of inflammation had arrested, and in a couple of weeks she was discharged, the uterus having almost regained its normal size. When admitted, the sound penetrated to the depth of five inches into the uterus.

Although the mode of treatment I have just detailed, and which you have seen repeatedly carried out in this hospital, is the one on which you can most rely for the cure of menorrhagia depending on subinvolution, I am far from desiring you to suppose that I advocate its use in all cases. On the contrary, I nearly always first try the effects of local depletion and of such medicines as are known to exert an influence over uterine hæmorrhage. Of these ergot and gallic acid (ten grains of each), administered every third hour, are the most reliable; or, if the patient be anæmic, I prefer giving ten drops of tincture of the perchloride of iron and twenty

of the liquor ergotæ, with the addition in some cases of three or four drops of the lig strychniæ, at similar intervals. The addition of ten drops of tincture of digitalis to the latter sometimes increases its efficacy, but I am reluctantly compelled to add, that these and similar medicines very often fail to effect the least good.

LECTURE VI.

Menorrhagia continued—Granular Ulceration of Cervix Uteri—Treatment of—Granular Condition of Cavity—Treatment of—Mode of Dilating Cervix—Sponge Tents—Seatangle Bougies—Barnes' Dilators—Nitric Acid, use of—Curette—Placenta Retained after Abortion.

In my last lecture I dwelt at some length on the subject of subinvolution of the uterus, as bearing on that of menorrhagia which is nearly always associated with it, and I mentioned, that that unhealthy condition of the uterus predisposed to the occurrence of ulceration of the cervix; but this affection is often met with independent of subinvolution, and is by itself capable of giving origin to profuse menstruation.

Mere abrasion of the lips of the os uteri is not sufficient to produce menorrhagia, but that unhealthy spongy condition of the cervix in which the mucous membrane lining its canal becoming hypertrophied and thickened, bleeds on the slightest touch, the os being patulous and the lips everted, is quite capable of originating severe menorrhagia. A young married woman, aged twenty-four, who had never been pregnant, stated that she had become greatly debilitated by the excessive loss which occurred at each menstrual period. She had been treated by ergot and astringents exhibited by the mouth, and by injections into the vagina of lotions containing alum and zinc; but this treatment produced no good effect. A vaginal examination proved the existence of extensive granular

ulceration of the os and cervix uteri. Now, in severe cases such as the one I am referring to, you may rest satisfied that the unhealthy condition of the mucous membrane extends at least as high as the os internum, and that you will fail to effect a cure unless your treatment reach every portion of the diseased tissue; therefore with the view of permitting the necessary applications to be made to the whole extent of the cervical canal, I commenced my treatment by introducing two tents of compressed sea-tangle, two pieces being sufficient for the object I had in view, which was, not to open the uterus to such an extent as to enable me to examine its cavity, but only to permit me to treat the entire of the cervical canal. I left these pieces *in situ* for twenty-four hours, and on withdrawing them, after the lapse of that time, I cauterised freely the whole of the diseased surface with strong nitric acid. This did not cause any pain. On examining the os uteri a few days subsequently, I found it in a much healthier condition; the menorrhagia never returned, and although a considerable time elapsed before the uterus regained a perfectly healthy state, still the progress of the case was rapid and the cure perfect, the only treatment subsequently necessary being the occasional application of a twenty-grain solution of nitrate of silver to the os uteri, and, at a later period, of small blisters over the sacrum; finally, not the slightest trace of the ulceration remained, and menstruation became in all respects normal.

The foregoing case illustrates perfectly the mode of treatment I, as a rule, adopt. Of course it is not always necessary to dilate the cervix uteri. If the case be recent, and you can satisfy yourself that the unhealthy condition of the mucous membrane does not extend very high, the use of the solid nitrate of silver, or brushing the part lightly over with nitric acid, may be sufficient; but in the more severe forms

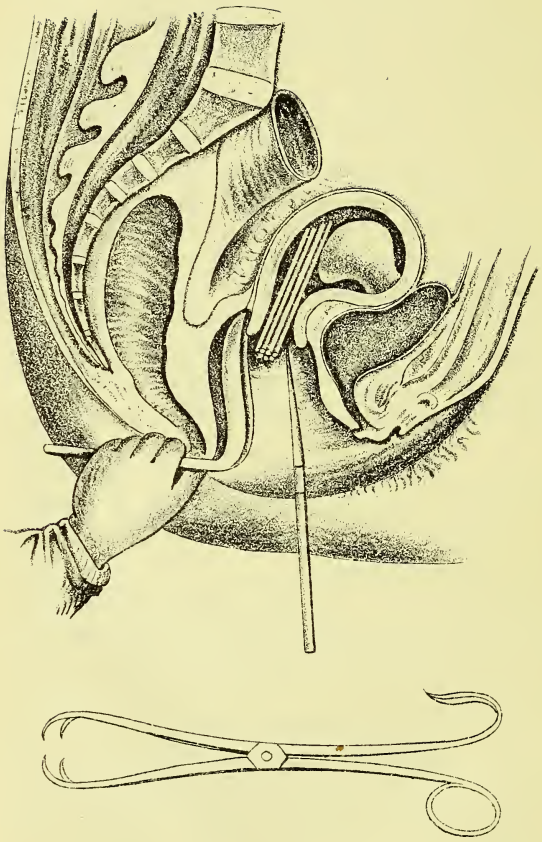
of the disease such treatment will prove to be merely palliative, and the only effectual one will be found to consist in that which I have advocated. I believe that not a little of the opprobrium which rests on obstetric practitioners for the length of time over which their treatment extends, is due to excessive timidity, and to the use of inefficient remedies.

A condition very analogous to that which we can see in the cervical canal, occurs also in the interior of the womb, as the result of congestion and inflammation of the lining membrane of that cavity; a fact which is often overlooked. Indeed the majority of systematic writers altogether omit mention of it. Dr. Tanner, in his excellent work on the "Practice of Medicine," mentions the "existence of an unhealthy pulpy condition of the mucous coat" of the uterus as a cause of menorrhagia. My own experience leads me to conclude that while a "pulpy" condition is rare, chronic disease, producing a rough granular state of the mucous membrane lining of the cavity of the uterus and giving origin to menorrhagia, is far from being uncommon. This condition I believe to be in many respects analogous to that so commonly met with in the eyelid, and you will fail to cure the menorrhagia which it causes, till you have destroyed the granulations on the mucous membrane and restored it to a healthy state, just as you would fail to relieve the ophthalmia depending on granular lids till you have cured the palpebral affection. I may here take the opportunity of laying down a rule, which I advise you invariably to adopt—namely, whenever you meet with a case of menorrhagia *in an otherwise healthy woman*, which a careful vaginal examination proves not to depend on ulceration of the os and cervix uteri, on an extra uterine-polypus, on cancer, or such evident cause, that you should dilate the cervix and os internum with the view of determin-

ing what the condition of the interior of the womb may be. This I hold to be your manifest duty.

I cannot refrain from quoting the judicious remarks of Dr. Tanner, with reference to this subject. He says, speaking of menorrhagia—vol. ii., p. 301—"When a woman suffers from repeated attacks of uterine hæmorrhage, which can only be partially or temporarily relieved by rest, nourishing food, and proper astringents, we may be sure that there is some organic disease of the ovaries or uterus; and though the cervix and body feel healthy to the touch, we can be certain that the bleeding is due to some actual disease; that it is not functional." And further on, after enumerating what these causes may be, he adds—"There is only one plan of treatment which can be adopted with a reasonable hope of success, and that is to dilate the os and cervix thoroughly, so as to permit the removal of the source of evil." I fully endorse these observations.

There are two methods still practised of accomplishing dilatation of the cervix uteri, the one being with sponge tents, the other by means of sea-tangle. The former can be made of any required size; it is merely necessary to cut a fine clean sponge into pieces, conical in shape, and of various sizes and lengths, for you should always be provided with several tents of different sizes before commencing the process of dilatation. You should then wrap each piece as tightly as possible with fine twine, commencing at the narrow extremity and winding it on till it reach the thick end. The pieces of sponge are next to be immersed in a strong solution of gum arabic and left in it till thoroughly saturated, and then hung up to dry slowly. Before these are used the surface should, after the removal of the twine, be rubbed smooth. A small-sized tent is to be first inserted, a larger one being introduced on its removal, after the lapse of from six to twelve hours.



Polypus - (Case of M. D.)

Seven pieces of Sea Tangle in Uterus to effect Dilatation.

I have entirely given up the use of sponge tents myself: they are troublesome to prepare, give rise to a very fœtid discharge, and are further objectionable, because the mucous membrane lining the cervix sinks into the cells of the sponge, and is consequently lacerated as the tent is withdrawn, and thereby the risk of inflammation occurring is greatly increased; besides sponge tents, from their conical shape, necessarily dilate the os externum far beyond what is required, before the os internum is opened even to a moderate extent. In fine, sponge tents should never be used if sea-tangle can be obtained.

Tents made of this substance, technically called *laminaria digitata*, have been in use for some years for the purpose of dilating the cervix. The method first adopted was to introduce one which after the lapse of some hours was withdrawn, and another of greater calibre introduced in its place, the process being repeated till the os internum was sufficiently dilated. This process was necessarily very tedious, besides being objectionable in other points of view. It is now given up, and a modification of it introduced by Dr. Kidd of this city, adopted in its place. Dr. Kidd's method possesses these three great advantages—that it is comparatively rapid, that it is cleanly, and lastly, and most important of all, that it dilates the canal equally throughout its whole length, except in some cases of rigidity of the os internum, to which I shall allude presently.

Having decided to dilate the cervix, the first step is to expose the os uteri by means of the duck-bill speculum, next to seize the anterior lip with a small hook, and with it to draw down and steady the uterus, as shown in Plate II. You should previously measure the depth of the uterus, and have ready several pieces of sea-tangle bougies, each piece being at least the length of the uterine cavity. These you now proceed to introduce; the main difficulty is nearly always

with the first, and this is greatly increased if the uterus be retro or ante-flected. The short lengths not being so easily manipulated as longer ones, I sometimes, when difficulty occurs, take an entire bougie and pass it through the os internum as I would the sound. I then slip pieces of the proper length in beside it, for when we have inserted one piece, it straightens the uterus and serves as a guide to the others. When several pieces have been introduced you can withdraw the long one, or if, before passing it, you nick it round at the point corresponding with the length of the other pieces, you may be able to break it there, and so avoid the trouble of having to substitute another length in its place. The number of pieces you should insert varies in each case. If the patient have never been pregnant and the cervix rigid, you will not be able to get in more than three or four, but if she have borne children, or if the cervix be relaxed, you may succeed in introducing double that number, or even more, without difficulty.

If a small number only have been introduced, it is better to withdraw them after the lapse of nine or ten hours, and introduce a larger number; but if seven or eight pieces have been inserted, they may be left for twenty-four hours before any further steps be taken. The sea-tangle gradually absorbs moisture from the vagina and uterus, and swells, and by swelling forcibly dilates the cervix. This of course, causes pain, which, however, is seldom very severe, and generally passes off after a few hours. If it continue, I usually direct a morphia suppository to be introduced into the rectum, or twenty grains of the hydrate of chloral to be administered at bedtime.

Dr. Graily Hewitt, who still advocates the use of the sponge tents in preference to the sea-tangle, states, as an objection to the latter, that it is liable to slip out. This cer-

tainly is true, if you use the short tents which are sold in boxes, but if you use pieces of the bougie of the length already specified, and take care that they pass up to the fundus, there is very little chance of their being expelled; on the contrary, I have on two or three occasions experienced some difficulty in removing them. This has been the case when the os internum was so rigid, that it prevented the sea-tangle expanding as freely at that point as it did in the cavity of the uterus and in the cervical canal; and the pieces of tangle being thus constricted in the middle, it was necessary to press the index finger of the left hand firmly against the lip of the os uteri, while, with a pair of long forceps held in the right hand, one piece is seized and slowly extracted. These are the cases in which, as just mentioned, the whole extent of the canal is not equally dilated, and then fresh pieces of the tangle must be introduced and time given to allow of them to expand, before proceeding to explore the interior of the uterus.

You will, however, from time to time meet with cases in which, although the sea-tangle has expanded to its fullest extent, still from the size of the tumour, or some other cause, the os internum is not as large as you would desire. Under such circumstances I usually complete the process by the introduction of one of Dr. Barnes' dilators. These are India-rubber bags of a somewhat hour-glass or rather fiddle shape. They are made of three different sizes. One end terminates in a long slender tube, the extremity of which is furnished with a stop-cock. The dilator is introduced in a flaccid state into the uterus on the point of a staff or sound, the terminal bulging part being carried through the os internum; air or water being then gradually forced into the dilator through the long tube, just alluded to, it is left in for an hour or two, and by that time has generally distended the canal to a considerable extent. The peculiar shape of the dilator prevents

it, when once it has been distended, from slipping out of the uterus. Dr. Barnes originally introduced these bags into practice for the purpose of dilating the os uteri in cases in which it was desirable to induce premature labour, a purpose which they often serve admirably, but their use is now further extended, and we employ them occasionally for the purpose of completing the dilatation of the cervix in the unimpregnated uterus.

You have had frequent opportunities of seeing the process I have described carried out, and must have noticed the entire absence of unpleasant symptoms, after a proceeding so apparently severe as the forcible dilatation of the cervix uteri. I have therefore no hesitation in recommending you to adopt this course in your future practice, as being one which you have seen productive of such good results in this hospital.

I have now explained the mode by which dilatation of the cervix is to be accomplished. It remains for me to direct your attention to the mode in which you are to proceed, when, having withdrawn the sea-tangle or sponge tents, you desire to clear up any doubt which exists, and satisfy yourself as to the cause of the menorrhagia.

We must, in the vast majority of cases rely on the sense of touch alone, and must accordingly pass the index finger fairly through the os internum till the tip reaches the very fundus.* To accomplish this by no means easy matter, it is

* My friend, Dr. Cruise, who has paid special attention to the use of the endoscope, has on several occasions made an examination of the interior of the uterus with that instrument, and is of opinion that in most cases this can be done satisfactorily. In confirmation of which statement I may refer you to Dr. Cruise's Paper, in the "Dublin Journal of Medical Science," Vol. 78, for May 1865, page 333; also to a case recorded by Dr. Hayden, in the 80th Vol. of the same periodical, p. 497; to a Paper on Granular Endometritis, by Dr. Churchill, in the 1st Vol. of the "British Medical Journal," p. 2; and to an Essay on the Endoscopic Examination of the Cavity of the Uterus, by Dr. Pantaleoni, of Nice, in the "Medical Press and Circular" for July 14th, 1869.

necessary in the first instance to draw down and fix the womb; this you effect by seizing the anterior lip of the os uteri with a vulsellum, which you intrust to an assistant to hold, while the fundus should be at the same time pressed down by your left hand, or better still, by another assistant; the finger, well oiled, is now introduced slowly through the os internum and swept round the entire cavity of the uterus. You will thus detect the existence of a polypus or a tumour, no matter how small, should either be present, while the educated finger will recognise the rough uneven feel which the mucous membrane, if in an unhealthy granular condition, conveys to the touch.

I have already expressed my opinion, that this condition of the lining membrane of the uterus is probably due to sub-acute inflammation. This view I believe to be correct; but be the cause what it may, the mode of treatment should be the same, and that is to destroy these so-called granulations "and endeavour to excite healthy action in the diseased part." With this object, I invariably make use of the strong nitric acid, applying it with extreme freedom to the interior of the uterus. In such cases it is necessary to reach the entire of the diseased surface; for if the acid be applied imperfectly or partially, the irksome process of dilating the cervix must be gone through again. I apply the acid by means of a thin strip of lint, or bit of cotton, wrapped firmly round a piece of stick, or better still, fastened through a loop of iron wire such as that at the end of the stilette of an ordinary catheter. The os is brought into view by the aid of the duck-bill speculum which protects the posterior wall from any risk of injury, its concavity being smeared with lard to prevent the acid from corroding it, while the anterior wall is guarded by the vulsellum with which the lip is still firmly held; the stick or wire armed with the piece of lint saturated with

the acid, is then passed boldly and rapidly through the dilated cervix, swept round the entire of the interior of the womb, and withdrawn.

In some cases when the disease is of old standing, and the hæmorrhage has been severe, I even repeat the application, passing the stilette, armed with a fresh piece of cotton, and saturated with the acid, a second time up to the fundus, so as to insure the thorough cauterization of the whole inner surface of the uterus, and that that may be accomplished is beyond the possibility of doubt. The os uteri, the cervical canal, and the os internum, having been as you have frequently seen, dilated so widely as to have permitted the finger to be passed freely through them, while the os, exposed to view by the speculum and drawn down by means of the vulsellum, was within an inch of the vulva. As soon as the cauterization has been effected, another piece of cotton, soaked in water, should be at once applied to the os, to prevent the vagina being injured by any acid discharge which might issue from the uterus; and then the lip being freed from the grasp of the vulsellum, and the speculum withdrawn, the patient is to be placed in bed.

The subsequent treatment is very simple. Should the patient suffer pain, which she seldom does to any great degree, I order a morphia suppository to be introduced into the rectum, but even this in the majority of cases is unnecessary. Indeed, much less pain is caused by this application, than by the introduction of the solid nitrate of silver, though the latter would seem the milder treatment of the two. This immunity from pain after the acid is, I think, partly at least due to the circumstance that the cervix and the os internum have been previously dilated. At the end of five or six weeks, I introduce the speculum, and examine the condition of the os. The slough caused by the nitric acid has

generally by that time separated, and you have a heavy granulating surface exposed to view. I brush this over with a ten-grain solution of nitrate of silver, at intervals of a day or two, and in a fortnight, as a rule, it is perfectly healed.

You can doubtless recall to mind several of the cases which have been treated by this method during the past session. The following one, at present in the house, serves as an example :—J. C., a married woman, æt. twenty-eight, admitted 26th Nov., 1870, has never been pregnant. Menstruation regular, till within the last few months, when she observed the flow to become much more profuse than formerly, and to last for a greater number of days. Latterly, the interval between each period has been but a fortnight. She has suffered, and continues to suffer greatly, from severe pain over the left ovary and in the back. On making an examination *per vaginam*, the os was found to be relaxed and patulous, the sound penetrated to the depth of nearly three inches and the fundus appeared to be slightly enlarged. The existence of a small polypus or fibrous tumour being deemed possible, dilatation of the cervix was decided on ; five lengths of compressed sea-tangle were introduced on the morning of the 3rd Dec., but on withdrawing them next morning, the os internum was found still too contracted to admit of the passage of the finger; Barnes' small-sized dilator was consequently introduced and maintained in the cervix for a couple of hours. On its removal, I was able to introduce the finger, and to reach the fundus, but neither polypus nor tumour could be detected in the uterus. The inner surface, however, was felt to be rough and uneven ; the entire of this surface was freely cauterised with the strong nitric acid. This patient was discharged on the 21st Dec., perfectly well.

Such is the treatment I nearly invariably adopt, circumstances, of course, occasionally requiring me to modify it

somewhat. Were the patient in a very feeble, debilitated condition, I should endeavour, in the first instance, to improve her health, restraining the menorrhagia by plugging, by alum injections, or by hot water bags applied to the spine; but this treatment would be altogether palliative, and I should as soon as possible have recourse to the radical plan I have just advocated.

Two other modes of treatment have been practised to which it is right I should call your attention, namely, the injecting into the uterus of astringent or caustic fluids, and the scraping of the inner surface of the uterus with an instrument called the curette. I do not think either of these modes of treatment as safe or as satisfactory as that just detailed. Inflammation of a serious, and even fatal character, has followed the injection of fluids into the cavity of the uterus; and I look on it as a hazardous practice. If any of you, gentlemen, should be induced to try it hereafter, let me recommend you, in the first instance, to dilate the cervix, so that the injected fluid may have a ready means of exit.

As to the curette, it is, in my opinion, an unscientific instrument and ill adapted to attain the object in view. This instrument is intended to detach any soft bodies which may exist in interior of the womb; in plain English, the object is to scrape its lining membrane, and as this has to be done almost at random, it is evidently a mere chance whether it effects the object in view or not. Récamier himself, who invented it, advocates the cauterising of the interior of the uterus with nitrate of silver after the curette has been withdrawn—a clear proof that the use of the instrument even in his own hands proved inefficient. There are just two cases in which, in my opinion, the use of the curette is justifiable, namely, for the removal of a small polypus the size of a pea or bean,

which it is difficult to seize with the forceps for the purpose of twisting off, and yet may be too large to be easily destroyed with nitric acid, and in those comparatively rare instances, in which, as the result of long standing disease, the granulations are of such considerable size that it is doubtful whether the acid will be sufficiently powerful to destroy them; then the removal of these by means of the curette, previous to the free application of the acid, is justified. But then, in both cases, the cervix should have been previously dilated, and the instrument guided along the finger to the required point.

The retention of a portion of the placenta, or of the fœtal membranes, is so well known a cause of uterine hæmorrhage that it needs but brief notice. Not long since we had in hospital a case to which I wish to call your attention. This woman was the mother of five children. Early in February she had a miscarriage, at about the fifth month of pregnancy. There was considerable hæmorrhage at the time; the discharge did not entirely disappear for four or five weeks. After an interval of about a fortnight, a red discharge, which she supposed to be the regular menstrual flow, appeared, and continued, with short intervals, till the 1st May, when she came under my care. On examining her, I found the uterus to be much enlarged, the sound penetrating to the depth of four inches. The large size of the uterus, and the freedom with which the sound rotated in the cavity, induced me to suppose that it contained a tumour of some kind, and I determined to explore the interior. I accordingly dilated the cervix, and on passing my finger through the os internum, detected what appeared to be a polypus attached by a slender pedicle to the uterine wall. I seized it with a vulsellum, and, using very slight traction, extracted what proved to be a portion of placenta, which had been re-

tained in utero for nearly three months, giving rise to the symptoms I have detailed.

Profuse menstruation, occurring at irregular intervals, is not unfrequently noticed in women approaching the climacteric period, and sometimes assumes an alarming character. The causes of these attacks are sometimes obscure, but in many instances they depend, I am satisfied, on congestion of the ovaries or uterus, or on hyperœmia of both these organs. They are most likely to occur in women, who, as is often the case at this period of life, fall into flesh; the attacks are frequently preceded by feelings of much discomfort, by headaches, and sometimes by tenderness on pressure over the ovaries. All medicines having a direct tendency to check the flow, are contra-indicated in such cases; during the period the excessive loss is best checked by rest, the application of hot water bags to the sacrum, by dry cupping over the ovaries and sacrum and by the exhibition of ergot. But our main efforts should be directed to avert a recurrence of the attack. With this object in view, blood should be abstracted from the uterus by puncturing the cervix immediately before and immediately after each period, and the bromide of potassium adminstered in thirty-grain doses, for some days prior to that on which the flow is expected. Not unfrequently, however, although the patient looks stout and even plethoric, she feels weak, and complains of fatigue on the least exertion, the pulse is feeble, the heart's action weak; therefore, in the intervals between each period, you should attend carefully to the general health, see that the diet be nutritious and unstimulating, that open air exercise be taken, while you will at the same time administer tonics, of which, arsenic, iron, strychnia, and digitalis, are pre-eminently useful.

From what I have told you, as to the causes on which menorrhagia depends, you will understand why it is that

astringents, and hæmostatics administered by the mouth, are so frequently ineffectual in stopping the hæmorrhage. You are not, however, to suppose that they are useless. On the contrary, they are frequently productive of much benefit and generally are valuable adjuncts to our surgical treatment. In cases of profuse menstruation depending on subinvolution, you will often find ergot check temporarily the discharge. I generally give the liquor ergotæ, in thirty-drop doses every four hours. If the patient be anæmic, I usually administer along with it, ten drops of the tincture of the perchloride of iron; and, unless its exhibition is from cause specially contra-indicated, invariably add from three to five drops of the solution of strychnia to each dose of ergot, and am satisfied that it greatly increases the peculiar action of that drug on the uterus. I have also tried it with advantage in cases of post partum hæmorrhage. You have had an example of its effects in the case of the patient, who was admitted for profuse hæmorrhage, coming on three weeks after abortion at the fourth month, which I believed to have been kept up by the retention of the placenta. You may have remarked that each dose of the ergot and strychnine was followed by sharp uterine pains, which resulted in the expulsion of the placenta. I recommend you to try, in your future practice, this combination. I am also at present, as you are aware, testing the efficacy of the hypodermic injection of ergotine in the treatment of these cases. Gallic acid too, alone, or in combination with ergot, is an admirable medicine, and often produces excellent effects. I usually give ten-grain doses of both. The mineral acids and acetate of lead, are extensively prescribed in cases of menorrhagia. They are, however, very unreliable agents.

LECTURE VII.

Polypus—Varieties of—Cystic—Mucous—Fibrous—Symptoms of—Intra-uterine, operation for removal of—Steel Wire, advantages of—Modification of Gooch's Canulæ—Fibrinous and Placental Polypi.

In the preceding lecture, I have spoken of those forms of menorrhagia which depend on, or are caused by, an abnormal or diseased condition of the uterus or of its lining membrane; to-day, I have to call your attention to an affection as important as any of the preceding, one, too, of frequent occurrence, and which almost invariably gives origin to profuse menstruation. I allude to polypus, which may be defined as, an affection, the result of hypertrophy of some portion of the uterine substance, which, taking the form of an out-growth, becomes in time a distinct tumour attached to the wall of the uterus, either by a base of considerable extent, or, more frequently, by a well-defined pedicle. These growths are met with of all sizes and shapes, sometimes as little stunted bodies only the size of a pea or small bean; sometimes as large tumours occupying the entire cavity of a uterus as large as that organ should be at the fourth or fifth month of pregnancy; but more commonly they are seen of intermediate size.

Occasionally the uterus seems to resent the presence of a polypus which has been developed within its cavity, and by contractions, similar to those of labour, expels it, and thus causes it to assume the form of an extra-uterine tumour, a

process which is evidently Nature's attempt, often a successful one, to effect a cure. When this takes place, and an intra-uterine polypus expelled from the uterus reaches the vagina, the hæmorrhage it has given origin to is usually checked, or possibly may cease altogether. But in addition to these of intra-uterine origin, a polypus may grow from the cervical canal, just within the os uteri, or spring from the vaginal surface of the uterus.

Three varieties of polypi are recognised by pathologists,—namely, the cystic or glandular, the mucous, and the fibrous. The cystic or glandular polypus, as the name indicates, generally presents to the eye the appearance of a cyst. These polypi are soft, pearl-coloured bodies, composed of an albuminous, gelatinous fluid, enclosed in a delicate membrane. They appear sometimes to be simply enlarged or hypertrophied Nabothian glands, but are occasionally new growths. I pointed out to you an example of this latter form in one of the out-patients a few days ago, in whom a polypus grew from the lip of the os uteri; it was of the size of, and not very dissimilar in appearance to, a grape, and had *not* caused hæmorrhage. When I attempted to seize it with the forceps, it broke, and discharged its contents. I cauterised its point of attachment freely with nitric acid, and when the woman presented herself again, after a lapse of a few days, no trace of this little polypus remained. In none of the cases of cystic polypus, which have come under my observation, have they been of greater size than a hazel nut or grape, nor am I aware of any instance in which they occurred high up in the uterus. They nearly invariably grow from some portion of the cervical canal. These polypi are always sessile, that is, growing directly from their point of origin without the intervention of a pedicle; two or more may, and frequently do, occur at

the same time. When once detected, they are easily destroyed, either by pressure, or by torsion. If situated within the cervical canal, they generally give origin to a glairy discharge, and nearly always cause hæmorrhage.

The mucous polypus may spring from any portion of the mucous surface of the uterus, but its favourite seat seems to be the cervical canal, and it may not unfrequently be seen projecting from the mouth of the womb, as a small tumour of a bright pink colour, which bleeds on the slighest touch.

These growths seldom attain a large size—once only have I met with an exception to this rule; the patient was the wife of a carman. I saw her about twenty-four hours after delivery, and found a polypus, of the size of an orange, hanging partially out of the vagina. It was attached by a long and very slender pedicle to the cervix uteri, the point of attachment being just inside the os. The midwife who attended this woman assured me, that her labour had been in all respects easy and natural, and that she did not detect the polypus till after the expulsion of the placenta. Its vitality had evidently been destroyed by the pressure to which it had been subjected during the passage of the child's head through the vagina, for when I saw it, it already exhibited signs of decomposition. This patient stated that having, when in the third month of pregnancy lifted a heavy weight, she felt something to give way internally, and immediately afterwards perceived a tumour at the vulva. Profuse hæmorrhage followed, which, however, soon subsided, and the tumour receded. During the remainder of pregnancy she enjoyed good health, and, excepting that she noticed when fatigued something appear at the vulva, was not conscious of the existence of anything abnormal. A polypus of such size as this, springing from the cervical canal, is, however, very rare.

The next largest I have seen occurred in one of our out-patients, an unmarried woman, aged twenty-four. Persistent hæmorrhage, which all astringents failed to check, compelled me to make a vaginal examination, and I discovered one of these mucous polypi, nearly an inch and a quarter in length, but not much thicker than an ordinary quill, hanging out of the os uteri. In the great majority of instances, however, the mucous polypus does not attain a fourth of that size. These small ones are nearly entirely composed of a soft gelatinous structure. They are highly vascular, and often give rise to severe hæmorrhage quite out of proportion to the size of the tumour. They are generally attached to the canal of the cervix by a slender pedicle, and their vitality is very easily destroyed. It is not at all uncommon to meet with several small mucous polypi in the same patient; occasionally they are of a denser texture, a greater proportion of fibro-cellular tissue entering into their structure, and when this is the case they are more likely to attain a large size.

When once detected, the removal of the mucous polypus is a matter of great ease. This can be effected either by means of a pair of curved scissors, or by torsion. I greatly prefer the latter method; indeed I have seen such profuse hæmorrhage follow the excision of even a very small polypus, that I do not think I shall ever again use a knife or pair of scissors for the purpose. I recommend you, therefore, always to remove them by seizing them firmly with a pair of fenestrated forceps, twist them off, and then cauterise their point of origin with nitric acid. When they project from the os uteri, this is all that has to be done, but sometimes they lie higher up in the cervical canal, and then you have to dilate the canal before you can reach them. Indeed this proceeding may of itself be sufficient to effect a

cure, for so readily are these polypi destroyed by pressure, that instances are of not infrequent occurrence, in which menorrhagia having led the physician to dilate the cervix that he may explore the uterus, he has afterwards found no morbid structure, the sea-tangle having, by its pressure, destroyed the polypus to which the menorrhagia was due. The fact of a polypus being discovered in any particular case is, therefore, no proof that none existed.

Mucous polypi are occasionally met with springing from the fundus of the uterus; then their removal is a matter of more difficulty, for the cervix must be dilated throughout its whole extent, the polypus seized and twisted off, and nitric acid freely applied to the interior of the womb.

The fibrous polypus is even more frequently met with than either of the other varieties, and is more difficult to treat. The exciting cause, and mode of growth of these tumours, is still far from being clearly understood. We only know that, as a rule, they spring from the uterine sub-mucous tissue, are composed of firm fibro-cellular elements, and are invariably covered with mucous membrane. In fact, they are "out-growths of and from the substance of the uterus, the mucous membrane and the muscular and fibrous tissue of the uterus growing in a variety of proportions into its cavity" (Paget). These polypi are generally supplied with numerous blood-vessels, which, however, are seldom of any magnitude. They are met with of all sizes, nor does the amount of hæmorrhage necessarily bear any proportion to the size of the tumour; they may be small and sessile, but more commonly are connected to the wall of the uterus by a well-defined pedicle, which, however, varies greatly in thickness and length. We seldom find more than one fibrous polypus in the uterus at the same time. I am aware, however, that

there are exceptions to this rule; thus I had the opportunity recently afforded me, by my friend, Dr. Kidd, of seeing a patient from whom he removed nine fibrous polypi at one operation.

The fibrous polypus generally grows from the fundus of the uterus, though examples from time to time occur of its being attached to other portions of uterine walls. I have never, however, in my own practice, seen one springing from the cervical canal. But no matter where attached, its course is the same—the polypus gradually enlarges, while the whole of the uterus, stimulated apparently by its presence, increases in bulk and density, till not unfrequently we are enabled to feel the organ above the pubes. If not interfered with, and that it be pedunculated, it is possible that in time the uterus may expel it, and that thus it may become extra-uterine, and even appear at the vulva. Such a course, however, is far from usual. In general the hæmorrhage, which almost invariably accompanies this affection, runs down the patient, and compels her to seek for relief long before that stage can be reached; or, if she fail to obtain the requisite aid, consigns her to a premature grave.

The symptoms marking the occurrence of polypus are threefold—namely, hæmorrhage, leucorrhœa, and pain. Hæmorrhage is, I may say, invariably present. The patient generally first notices that the menstrual flow is more profuse than formerly; then that its duration is prolonged, and that leucorrhœa occurs in the interval; pain above the pubes, and over the ovaries, is also generally complained of. No age, from puberty upwards, possesses an immunity from this disease. Here, on the table, are specimens of four intra-uterine fibrous polypi removed from patients aged respectively twenty-four, forty-six, thirty-five, and fifty-three years, the two former

being from unmarried, the two latter from married, women. The first specimen is the one you saw recently removed from M. D., who has just been discharged from this hospital. Her case is a very interesting and instructive one. She is aged but twenty-four years, and is unmarried. Three years ago she began to notice the catamenia to be more profuse than natural; they have continued so ever since. About a year ago she, for the first time, began to experience pains in the left side of the abdomen, which at one point was tender to the touch; lying on that side, too, caused her much distress, but she was still able to hold a situation as housemaid. On the 8th of August last the catamenia came on suddenly, and so profusely as to cause faintness. On admission to hospital, a day or two subsequently, there was little or no discharge present, but the hæmorrhage had been of so alarming a character, that I deemed it necessary, though she was an unmarried woman, to institute a vaginal examination. The vagina was moderately relaxed, the cervix appeared to be healthy, but the body was anteflexed and heavy. The sound penetrated to the depth of three inches. The cause of the hæmorrhage being still uncertain, I proceeded, in accordance with my invariable rule under such circumstances, to dilate the cervix, and, with some difficulty, succeeded in introducing several pieces of sea-tangle bougie, but on attempting to withdraw them after the expiration of twenty-four hours, I experienced great difficulty, for the os internum was so rigid, that it had prevented the tangle expanding at that point to at all the same degree that it had in the cavity of the womb, and each piece, when finally extracted, was found to be constricted in the centre. On removing them, a larger number were introduced when these were withdrawn; next day, I found the cervix to be freely dilated throughout its entire length, and on introducing

the finger, I detected a polypus of considerable size which was attached to the anterior wall of the uterus, near the fundus, by a short thick pedicle, the apparent anteflexion of the uterus being due to the fact, that the anterior wall was bulged outwards by the polypus, as shown in Plate II. To effect this examination, the anterior lip had to be seized by a vulsellum, and the uterus drawn down in the manner described in my last lecture.

The position, size, and shape of the polypus being thus ascertained, the next step was to remove it. I shall detail to you exactly how this was effected in the case I am referring to, as it will serve as a description of how the operation should be performed in all similar cases.

The uterus having been drawn down as low as possible by means of the vulsellum, which was fixed in the anterior lip, the index finger of the right hand was introduced till its tip touched the polypus. Another strong vulsellum, such as that shown in Plate II., was then taken in the left hand and guided up to the polypus along this finger, and the tumour firmly grasped by it. The latter instrument being intrusted to an assistant, the anterior lip was freed from the one by which it was held. This was done in order to give more room in the vagina, but unless the polypus be a firm one, the hold we have obtained on the lip of the womb should not be let go.

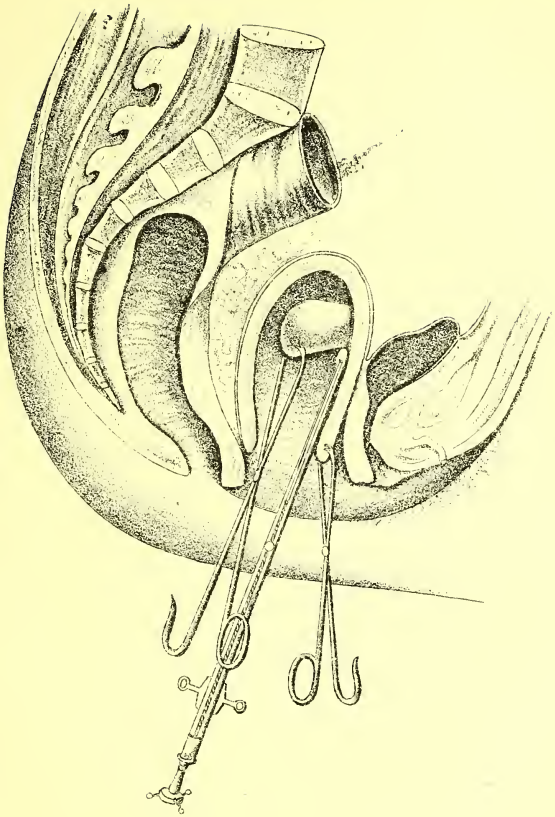
Firm traction was now exerted on the polypus by means of the vulsellum with which it was grasped, and it was drawn down as low as possible in the pelvis. A long *écraseur*, made much on the pattern of that suggested by Dr. Braxton Hicks (Plate III.), and armed with a strong iron wire, was then introduced, the wire being passed over the handles of the vulsellum so as to surround them. The extremity of the *écraseur* being kept in contact with the finger, was guided up

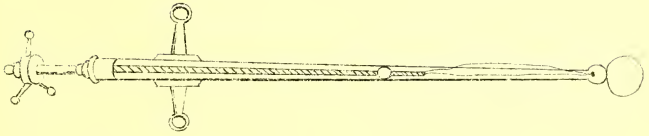
to the polypus, and the wire was, after some difficult manipulation, got over the upper surface of the polypus. The point of the *écraseur* was then pressed firmly against the lower edge of the pedicle, and kept in as *close contact as possible* with its point of attachment to the uterine wall. This is a matter of great importance, for if the point of the instrument be kept in the position described, the wire will be drawn as the *écraseur* is worked, close to the base of the pedicle, and thus the whole of the tumour will be removed. The *écraseur* was then slowly but steadily worked, the pedicle cut through in a few minutes, and the polypus, still held by the vulsellum, extracted.

The whole of the inner surface of the uterus was then brushed over with strong nitric acid, with the double view of preventing hæmorrhage, and of destroying any unhealthy condition of the mucous membrane of the uterus, should such exist. The patient was of course under the influence of chloroform during the operation.

The accompanying drawing (Plate III.) shows the position of a polypus at the fundus, grasped by the vulsellum, and with the *écraseur* applied.

This patient recovered without having the least drawback, was allowed to walk about the ward in a few days, and has since menstruated normally. This operation, though it is so easily detailed, is most difficult to perform, as the polypus is quite out of sight, and can hardly be touched by the finger even when drawn down with the vulsellum; then the space, in which you must have at least two instruments as well as your finger, is so contracted, that one sometimes almost despairs of being able to carry the wire round the tumour; and even when this is accomplished your wire may break, and all the trouble has to be gone over again. This accident occurred





Polypus at Fundus (Case of M. D.)
with Ecraseur applied.

twice in the case of the woman from whom the largest of the tumours I now show you was removed.

In the case I have just detailed I used a strong iron wire, and though the base of the polypus was three-quarters of an inch in diameter, it was sufficient for the purpose; still, as already mentioned, a single iron wire cannot be relied on if the pedicle be thick. I formerly used a cable of wire twisted tightly together, but some of the strands always gave way, and the ends becoming entangled in the parts, or getting twisted round the extremity of the *écraseur*, prevented it working, and I have been obliged to give it up.* A strong steel wire, such as that used for piano strings, is the material I now always use, except when the pedicle is very slender. For its introduction into practice for this purpose we are indebted to Dr. Kidd. Although very stiff, the steel wire is not more difficult to manipulate in the uterus than the flexible iron wire, for the loop, which is always constricted in passing through the os, expands as the result of its own elasticity on reaching the cavity of the uterus.

The extreme difficulty of encircling an intra-uterine polypus with a wire or chain, induced Dr. Marion Sims to invent an intra-uterine *écraseur*, which is a marvel of ingenuity but very complex, and in practice has proved a failure. I tried it in two cases, and found that it was impossible to adjust, and so have been compelled to abandon its use.

* Dr. Braxton Hicks, who was, I believe, the first to advocate the use of the wire cable, still gives it the preference, and is of opinion that a cable of well-annealed steel wire, not too smoothly coiled, answers much better than a single strong wire. He lays much stress on having the head of the *écraseur* slightly curved, so that there may be no angle on which the wire can cut, and on having the eye very much rounded at the edge, so that the cable may not be frayed.

The same reason influenced me, and led me to consider whether a less complicated instrument could not be devised, which would enable the operator to attain the desired end. I have accordingly had this *écraseur* (Fig. 11) made by Weiss. It differs from an ordinary long wire *écraseur* only in having the end modified, so as to allow of the passage through it of two slender silver tubes, identical with those so well known as "Gooch's canulæ." These (*a*, *a*) armed with a wire (*b*, *b*) of any strength, can be passed with ease up to the base of any polypus; they are then to be separated, and while one is held firmly, the other is to be carried round the pedicle. This can always be accomplished when a silk or hempen ligature is used, but it is very difficult, indeed, to carry a stiff wire round a large tumour with them; but I have done it, and cases from time to time occur in which this method proves useful. Having once got the wire round the tumour, the canulæ are to be passed through the openings (*c*, *c*) in the extremity of the *écraseur;* the *écraseur* is then to be pushed up, guided by the canulæ, till it comes in contact with the pedicle of the polypus; the

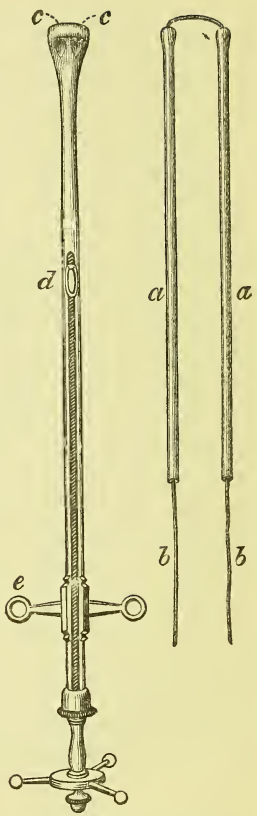


Fig. 11.

canulæ can then be withdrawn, and the wire being attached to the *écraseur* at *d* and *e*, the operation is completed as if we were using an ordinary wire *écraseur*. This is, in point of fact, an adaptation of the canulæ of Gooch to the *écraseur*.

Through the kindness of Dr. Johnston, Master of the Rotunda Lying-in Hospital, I had recently an opportunity of witnessing the removal, by means of this *écraseur*, of a very large fibro-cellular polypus, which grew from the anterior lip of the os uteri. The patient, who was very anæmic, had been admitted on account of the hæmorrhage. The polypus was so large that it filled the whole vagina, and it was impossible, the space being so very limited, to reach the pedicle or carry a wire round it with the fingers; Dr. Johnston therefore decided on encircling it by means of these canulæ, and this was very skilfully accomplished by Dr. Denham, Dr. Johnston, in consequence of an injury received in his hand, being unable to operate himself. The wire, a strong iron one, however, broke after the *écraseur* had been worked for a few seconds. A rope of twisted wire was then tried. It, too, was carried round the tumour by the same means, but also broke. A strong steel wire was then had recourse to; considerable difficulty was experienced in encircling the polypus with it, on account of its stiffness, but at last, by the aid of the canulæ, this was effected, and the wire having been attached to the *écraseur*, we had the satisfaction of finding it equal to the great strain to which it was subjected, and the pedicle was severed in a few moments. The tumour, however, was so large, that it could not be extracted till both blades of an ordinary midwifery forceps had been applied. The case afforded a satisfactory proof, both of the advantages that under certain circumstances are to be derived from this modification of the *écraseur*, and of the great superiority the steel wire possesses over either the iron wire or twisted wire ropes.

There has no greater advance been made in uterine surgery than in the treatment of intra-uterine polypus. Before the method of dilating the cervix uteri was introduced, it was impossible to diagnose their presence with any degree of accuracy. We might suspect their existence from the occurrence of hæmorrhage, and of uterine leucorrhœa, but nothing more; now, to use Dr. Marion Sims' language, "We can determine with the minutest accuracy not only their presence, but the size, shape, position, relations and attachments of all such tumours," and by means of the *écraseur* remove them in a short time without pain to the patient, who is under the influence of chloroform, and without any great risk to her life.

But a fibrous polypus may spring from the vaginal portion of the cervix, as well as from the interior of the uterus; its removal is then comparatively an easy matter, for, unless the bulk be very great, the chain or wire of an *écraseur* can be carried round it without much difficulty, and its separation accomplished in a few minutes. These polypi, as well as those of intra-uterine origin, which, having been expelled from the womb, have become vaginal, do not bleed so freely as those contained within the uterus. Dr. McClintock, in his work "On Diseases of Women," relates a striking example of this: he removed an enormous fibrous polypus which weighed thirty-four ounces, from the vagina of a woman aged fifty, and yet for two years previously she had not had any red discharge.

In addition to the three classes of polypi I have just spoken of, and which are undoubtedly out-growths from some portion of the uterine substance, two others are recognised by pathologists, to which I must allude. The one is termed the fibrinous, and is looked upon by some authorities as the result of abortion. "The embryo having been extruded, the remains of the ovum left behind, forms, with the extravasated blood,

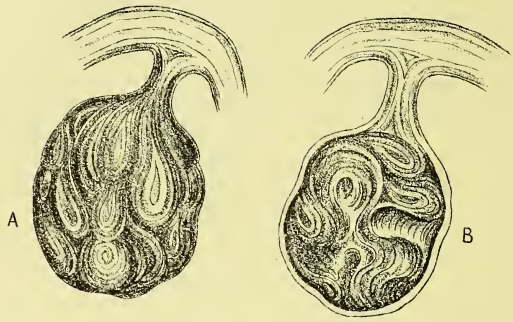
the foundation of a fibrinous polypus;" others believe these tumours to be "metamorphosed and adherent coagula of retained menstrual blood."

More recently the possibility of the remains of the placenta being capable of giving rise to polypoid bodies in the uterus has been advocated, especially by Dr. Stadfeldt, of Copenhagen, from a translation of whose paper by Dr. W. D. Moore, in the "Dublin Quarterly Journal" for November, 1863, I have quoted the foregoing extracts, and the perusal of which will amply repay any of you who may desire to become better acquainted with this subject. Dr. Stadfeldt does not believe that those small portions of the after-birth which nearly always remain after the placenta has been detached, and which usually come away with the lochia, are capable, even if retained, of giving origin to these growths, but only when portions varying in size "from that of a walnut to that of a goose egg or larger, and which contain one or more colytedons of the placenta" are left behind, and remain firmly attached to the uterine wall.

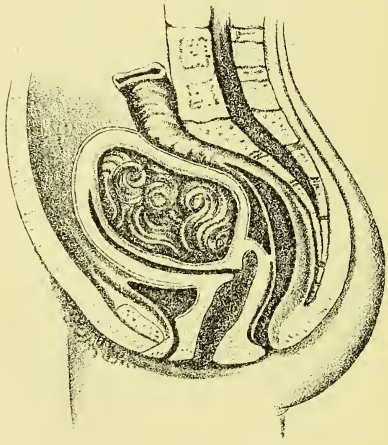
Ably adduced, however, as are the arguments of Dr. Stadfeldt, I am not satisfied that his views are borne out by the facts brought forward in support of them. They amount to this: that in four cases large portions of the placenta were found after death adherent to the uterus in women recently delivered; the longest interval which elapsed between delivery and death being but four weeks; in his other cases but a few days intervened. With similar instances every obstetric physician is familiar.

In the case related at the conclusion of my last lecture, I removed a portion of placenta which had been retained in the womb for nearly ten weeks after delivery, and which doubtless was during that time gradually being loosened from its attachment to the uterine wall, and its connection was pro-

bably only completely severed by the traction I made use of. That it was still connected with the uterus we may, I think, safely infer from the fact that the mass was not in any degree decomposed; but the persistence of vitality in a portion of placenta adherent to the uterus is a very different thing from its development into a polypus.



(A) *Uterine out-growth* (B) *Uterine Fibrous Tumour (after Paget)*



Intramural Fibrous Tumour (after Marion Sims)

LECTURE VIII.

Fibrous Tumours—Definition of—Varieties of—Sub-peritoneal—Sub-mucous—Intra-mural—Enucleation—Intra-uterine Injections—Influence of Pregnancy on—Spontaneous Cures.

I SHALL proceed to-day, gentlemen, to direct your attention to the subject of fibrous tumours of the uterus, a subject of quite as great importance as that of polypus, which was last under our consideration, though unfortunately more often beyond the reach of surgical interference.

A fibrous tumour may be defined as, a growth composed of fibrous tissue, identical in structure with that of the uterine wall, but "disconnected" from it, being in general surrounded by a capsule of dense fibro-cellular tissue, which "is peculiarly dry and loose, so that when one cuts on the tumour it almost of itself escapes from its cavity" (Paget, "Surgical Pathology," p. 474). This fact of the fibrous tumour of the uterus being by means of its capsule disconnected from the surrounding tissue, distinguishes it from the ordinary fibrous polypus, a distinction which cannot often be made during life. The annexed diagrams (Plate IV.), copied from Paget, illustrate the difference between these two growths; the one (*a*) being a section of an uterine out-growth or polypus, the other (*b*) of a uterine fibrous tumour, the former being "continuous," but the latter "discontinuous," with the substance of the uterus, although both in outward appearance are very similar.

It would be quite impossible in the brief limits of a clinical

lecture to enter at any length into the pathology of a subject so extensive as that of fibrous tumours of the uterus. I can only glance at a few of the leading characteristics, referring such of you as desire further information on this interesting subject to the works of Paget, West, M'Clintock, Matthews Duncan, and others.

Fibrous tumours are met with of all sizes, from that of a grain of shot upwards; those of large size being by no means of unfrequent occurrence, while cases are on record, in which they have attained a size greater than that of the uterus at the full term of pregnancy, and a weight of 70lbs., or even more. Again, they may be solitary, but usually two or more are present in the same patient; they may spring from the peritoneal surface of the uterus, and can be felt through the abdominal wall; they may grow from the sub-mucous tissue of the uterus, or finally be developed within the walls of the organ. Consequently, fibrous tumours are spoken of as belonging to one of three classes—namely, sub-peritoneal, sub-mucous, and intra-mural, according as they are found to grow in one or other of the situations I have designated.

The extra-uterine or sub-peritoneal, being in general beyond the reach of treatment, must be dismissed after a brief notice. They vary in size and appearance in even a greater degree than either of the other varieties, sometimes being numerous, small in size, and sessile, giving the surface of the uterus a nodulated appearance; or, on the other hand, attached by a pedicle which is sometimes short and thick, as shown in Plate V.; or at other times, so long and slender as to permit the tumour to float, as it were, free in the abdominal cavity, and finally even to dissever itself from all connection with the womb, and possibly become attached to some other portion of the peritoneal surface. When sub-peritoneal fibroids are pedunculated they sometimes descend into the pelvis, and

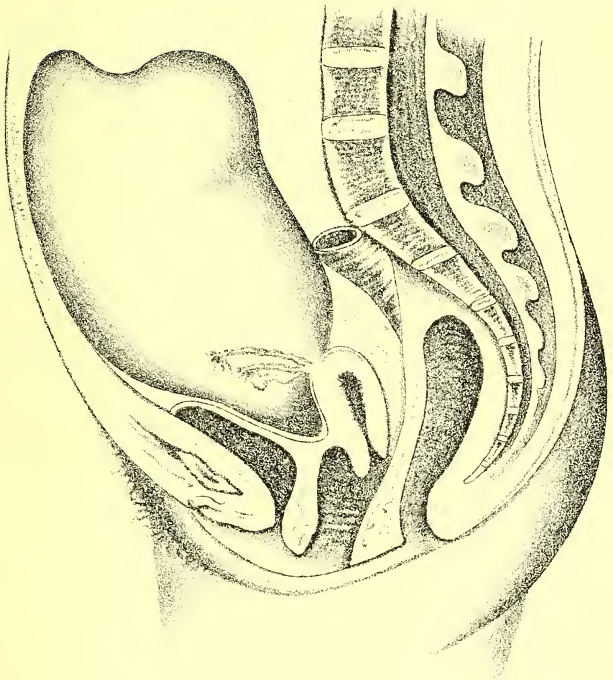
then, by their pressure on the neighbouring organs, give rise to most distressing symptoms. When this occurs the patient's sufferings are sometimes very severe, incessant desire to micturate, or total inability to pass water, being frequently experienced. Of course, it is impossible to give relief unless the tumour be raised from its position, and replaced above the brim. This is always a matter of great difficulty, sometimes an impossibility. The tumour invariably lies in the posterior *cul de sac*, between the rectum and the uterus, occupying much the same position which the impregnated uterus does when retroverted. With the view of raising it above the brim, Dr. Kidd has adapted to such cases, the method suggested by the late Dr. Halpin, of Cavan, for restoring the uterus when retroverted during pregnancy to its normal position. He introduces one of Barnes' largest-sized India-rubber bags into the rectum, and gradually distends it with water by means of a syringe, while, at the same time, steady pressure is made with the finger, on the tumour, through the vaginal wall. In this way, you will often succeed in raising the tumour, and making it slip up into the false pelvis. Unless indeed the case be of long standing, and it be bound down by adhesions, should these exist, your efforts will be not only useless, but injurious.

Sub-peritoneal fibrous tumours do not necessarily give origin to menorrhagia; indeed, as a rule, they do not seem to influence menstruation at all. Thus, in the case delineated in Plate V., the catamenia were quite regular. These tumours also, generally spring from the posterior surface of the uterus; this, however, is far from being always so; thus, in the patient from whom the drawing (Plate V.) was made, the tumour grew from the anterior wall. This case was interesting too, as affording an example of that form of the

disease termed *fibro-cystic*, in which a cyst is developed within the structure of the solid tumour.

The patient was under the care of my friend, Dr. Morgan, in Mercer's Hospital, through whose kindness I had an opportunity of seeing her. She appeared to be about thirty-five years of age, was married, but had never been pregnant. She stated that two years ago she detected a small, hard, moveable tumour in the left iliac region; that a year subsequently she perceived what she supposed to be another distinct tumour, in the right side; the latter was however but a projecting portion of one large central growth, which had steadily increased, till she had attained the size of a woman near the full term of pregnancy, but she did not think that, for the last few months, she had become larger. Menstruation appeared regularly at intervals of three weeks, fluctuation was everywhere very distinct, and there was universal dulness on percussion. On making a vaginal examination, the tumour could be easily felt blocking up the brim of the pelvis. The anterior lip of the os uteri, which was greatly hypertrophied, projected into the vagina, the uterus lay quite behind the tumour. The diagnosis of uterine cystic disease was made, and all idea of surgical interference was given up. This patient subsequently died of an attack of acute peritonitis, and we had an opportunity of verifying our diagnosis. The tumour, which was of enormous size, consisted mainly of an immense cyst; it sprang from the anterior and upper surface of the uterus, being connected to it by a short, thick pedicle. The drawing, which accurately represents both the size, shape, and position of the tumour, was made by my friend and former pupil, Dr. Hamilton Moorhead.

The sub-mucous, pedunculated, fibrous tumour is, prior to its removal, in no way distinguishable from, and is to be



Uterine Fibro-cystic Tumour.

treated in a manner identical with, the ordinary fibrous polypus of which I have already spoken. I shall not, therefore, allude to it any further, but shall proceed to the consideration of the third, and most important variety of these tumours.

Intra-mural, or as they are sometimes termed parietal, or interstitial fibrous tumours, are of frequent occurrence. They differ from the sub-peritoneal in two important features—namely, that they nearly always cause menorrhagia, and that they nearly, as invariably, stimulate the uterus to enlarge, an effect not often produced by the other form. Thus, in Dr. Morgan's case just alluded to, though the tumour weighed upwards of 11lbs., and was at least 25 inches in circumference, the uterus was of nearly its normal size and shape; while the presence of even a very small intra-mural tumour has been known so to stimulate the womb, that it has grown to a length of five or six inches, while its walls have attained a thickness of an inch or more. Dr. West, in his work "On Diseases of Women," mentions a case illustrating this fact.

The growth of an intra-mural fibrous tumour is sometimes very slow. In a case at present under my observation, and in which the womb has attained a length of five inches, no appreciable change has taken place during a period of two years. On the other hand, the tumour sometimes steadily increases in size, and then one of three results must occur—either, it will bulge out the peritoneal surface of the uterus, and possibly may become a sub-peritoneal tumour; or it may continue to grow in the substance of the uterus, the whole of the organ enlarging as the tumour increases; or it may project into the uterine cavity, carrying before it a covering of the muscular tissue of that organ. It is easy to conceive how this latter process, if continued, may result in the formation of an intra-uterine tumour, connected with the wall by a

pedicle, consisting of muscular tissue, continuous with that of the uterus, and of the mucous membrane covering it; and that this pedicle may in time elongate, and as it lengthens become more slender, till finally it passes out of the uterus, or even, spontaneously breaking at its attachment, is expelled from the vagina. Nearly all writers, with the exception of Dr. Matthews Duncan, admit the possibility of such an occurrence. He thinks that the uterine wall never elongates before the true intra-mural tumour, but that the tumour is expelled *bare*, into the uterine cavity, enucleation of the tumour, a process to which I shall have to refer by-and-bye, having taken place spontaneously. However, one thing is quite certain, that these growths frequently present themselves as well-defined tumours projecting into the cavity of the uterus.

Here is a specimen of a tumour so circumstanced: you see that it is connected to the uterine wall by a very extensive attachment, the circumference of the base being greater than that of any other portion of the tumour. It was taken from the body of a patient, who recently died in hospital. She was a married woman, aged fifty-three. About five years ago, she ceased to menstruate, but, after a considerable interval, observed a sanguineous discharge again to appear. This at first recurred with tolerable regularity, then gradually became more and more profuse, till finally it was continuous. Some months ago, she perceived a tumour in the abdomen, which at one point, on the left side, was extremely tender to the touch; she also experienced constant pain in, and was unable to lie on, that side. When admitted into hospital, she was in a very anæmic condition.

On passing the hand over the abdomen, a large tumour could be felt lying rather to the left side, which, as I have already mentioned, was at one point very tender to the touch.

On making a vaginal examination, this tumour proved to be the uterus greatly enlarged. The sound passed to the depth of five inches. I at once proceeded to dilate the cervix with sea-tangle, on withdrawing which, this large tumour was detected projecting into, and filling up the whole cavity of the uterus. The patient's condition rendered it absolutely necessary that its removal should be immediately attempted. I endeavoured to accomplish this, with Marion Sims' intra-uterine *écraseur*, but, as stated in a former lecture, I found that instrument quite unsuitable for the purpose. I then tried an ordinary wire *écraseur*, and succeeded in ensnaring the tumour, but the wire (an iron one) broke. Three times I succeeded in encircling the tumour with the wire, but the strain to which it was subjected was too great, and on each occasion it broke. As the patient was now much exhausted, I desisted from any further attempt; besides I hoped that the great pressure to which it had been subjected, might have been sufficient to destroy the vitality of the tumour, and that it would slough off. Matters went on very well for three days; indeed on the third day she expressed herself as being quite well. There was not any hæmorrhage; she had no pain on pressure, and the pulse was quiet; but on the night of the fourth day, she was suddenly seized with a violent rigour, complained of intense pain over the abdomen, sank into a state of low muttering delirium, and finally died comatose. On opening the abdomen after death hardly any trace of peritoneal inflammation presented itself, but on raising the omentum, that point on the fundus of the uterus, which as previously noticed, had been so excessively tender to the touch, was found to be in a condition of actual mortification. On opening the uterus, this enormous tumour was seen; it was nearly five inches in length, and its base where the ligature had surrounded it, measured nine inches in circumference. I

look back on this case with much regret; had I been acquainted at the time with the value of the steel wire, I believe I should have succeeded in removing this tumour, large as it is, and would probably have saved the woman's life.

Very frequently, however, fibrous tumours appear as mere protuberances, bulging out the uterine wall, as is shown in Plate IV. Such tumours as these can hardly be removed with an *écraseur*, and yet you cannot leave them alone, for health is undermined, and life itself frequently endangered by the hæmorrhage arising from their presence. The treatment to be adopted in such cases necessarily divides itself into the palliative, and the radical; the former consists of restraining the profuse flow, which occurs at each menstrual period, by plugging the vagina as recommended in a former lecture, and by the administration of hæmostatics, such as gallic acid, alum, &c., while ergot, alone or in combination with perchloride of iron, is often useful. But this plan of treatment is most irksome to the patient, and can only be looked on as a means of delaying the fatal results, which ere long must follow if more energetic means be not adopted.

Medicines without number have been administered with the view of causing the absorption of fibrous tumours of the womb. Prominent among these are the bromides. I have tried them fully and freely, and believe them to be of very little, if any, use. It would be waste of time for me to go through the long list of drugs which have been recommended in these cases. I do not wish to deter you from trying them in your future practice; they will probably do no harm, but I think I can promise that they will effect little good. For myself I have lost all faith in the resolvent powers of medicines of this class, in the disease at present under consideration.

The very limited good produced by medicines, has induced obstetric surgeons to adopt energetic measures for the treatment of intra-mural fibroids; no less than five methods having been recommended, and practised with the view to the radical cure, of these embedded fibrous tumours. They are—1st, incising the cervix uteri; 2nd, incising the tumour; 3rd, cutting into the tumour and destroying a portion of its tissue, a process to which the term gouging has been applied; 4th, enucleation of the tumour; 5th, avulsion, or the forcible tearing away of the tumour from its attachment.

Incising the os was first practised in this city by Dr. M'Clintock.* This operation has been founded on a theory of Mr. Baker Brown's, according to which, "the division of the os and cervix uteri, permits the fibres of the body of the uterus to contract upon the contained tumour, and thereby to compress the vessels and prevent hæmorrhage." Whether this be the true explanation or not, one thing is quite certain, that the operation is often followed by good results, and in the case of very large tumours, which are contained within the uterus, and when the cervix is thinned and spread over them, is fully justified.

The incising of the tumour has been practised by Dr. Atlee, in America, by Dr. Tracy, of Melbourne, and others with success—a success which is probably due to the fact, that the vitality of these tumours is nearly, if not altogether, destroyed by the incisions having divided their capsules, for the fibrous growth itself is endowed with but a very low degree of vitality. I have not met with a suitable case in which to try this treatment, but I certainly should not hesitate to do so, were dangerous hæmorrhages to occur in a patient in whom an intra-mural tumour existed, which I could

* "Diseases of Women," p. 149.

not control by other means, and that on dilating the cervix, too great a depth of the uterine wall proved to intervene between the operator and the capsule; for if this condition was found to exist, I would deem an incision dangerous, as being liable to be followed by excessive, possibly fatal, hæmorrhage.

Thus, in the case of a young woman, recently under my care, in whom a fibroid of the size of a cocoa-nut was embedded in the uterine wall, we found, on dilating the cervix and introducing the finger, that the tumour bulged the uterine wall altogether outwards, the cavity of the uterus being hardly at all encroached on. On endeavouring to seize the tumour with a vulsellum, it became evident that the uterine wall alone was grasped, and that the greater portion of the muscular tissue of the uterus intervened between the inner surface of the organ and the tumour. The substance of the uterus itself appeared to be soft, and in an unhealthy condition. I consequently dreaded lest an incision made to so great a depth might not result in dangerous hæmorrhage, and therefore deemed it right to cease from any further attempts at the surgical removal of the tumour, and contented myself with cauterizing the inner surface of the uterus freely with the fuming nitric acid.

This woman has gone to the country, to recruit her general health; when she returns, I intend giving a full trial to the hypodermic injections of ergotine, practised in the mode I shall presently explain.

Enucleation, that is the cutting down on and dividing the capsule, and then grasping the tumour and turning it out of its capsule, is an operation suggested by a consideration of one of the processes by which Nature occasionally effects a spontaneous cure: the capsule and investing covering of the tumour, becoming thinned at one point, either by a process

of absorption, or ulceration, the contained tumour is then pushed out by the contractile power of the uterus, and so finally expelled. Enucleation is advocated by Dr. Matthews Duncan, with his usual ability. He also practises with great success, the operation of avulsion, that is the seizing of the tumour with a strong vulsellum, and forcibly dragging it from its attachment.

Avulsion is adopted by Dr. Duncan, in cases in which spontaneous enucleation has already partially begun, or where that process, having been artificially commenced, has advanced to a certain extent. He considers it to be the proper practice in those cases of fibrous tumours in which the patient's life is in great danger, and which medical treatment is unable to avert. I am not able to speak from personal experience as to the value of the operation, but you will find full details of Dr. Duncan's views on the subject in the twelfth volume of the "Edinburgh Medical Journal." I am equally without experience as to the merits or demerits of "gouging," but I am of opinion, that surgical means have been carried rather too far in the treatment of some of these fibrous tumours.

There is a less heroic mode of treatment, I would have you bear in mind, and under certain circumstances to practice, before having recourse to surgical measures. It is the injection, after previous dilatation, of tincture of iodine or of the liquor of the perchloride of iron, into the uterine cavity. This practice is warmly advocated by Dr. Routh, of London, and, if the cervix and os internum *be first dilated*, so that the injection may have a free and rapid exit, I do not think that it is likely to be followed by unpleasant symptoms. My friend, Dr. M'Clintock, informs me that he has recently injected tincture of iodine with marked success, in the case of a lady, whom I had an opportunity of seeing with him, and in whom alarmingly profuse menstruation, which he ascer-

tained to be dependent on the presence of a large fibroid, occurred from time to time.

Dr. Matthews Duncan has recorded two cases in which he successfully restrained dangerous hæmorrhage, depending on the existence of a tumour in the uterus, by the injection, in each case, of one drachm of the liquor ferri. perchloridi, by means of a hollow sound, into the cavity of the womb. In his cases the cervix does not seem to have been dilated, a precaution I should always adopt.

The hypodermic injection of ergotine has, for some years past, been extensively practised, for the control of various forms of hæmorrhage, and with considerable success; latterly, the same treatment has been adopted with the view of checking *post partum* hæmorrhage, with equally good results, the main objection to its use being, that troublesome sores are apt to form at the site of the operation. Dr. Hildebrandt* has published the particulars of eight cases in which he has practised the sub-cutaneous injection of ergotine, in the treatment of fibrous tumours of the uterus. He comes to the conclusion that ergotine, thus used, is a powerful agent. In one case, a tumour, which reached above the umbilicus disappeared; in a second a tumour, extending as high as the false ribs, descended below the umbilicus, and in four other cases, in which the treatment was otherwise less complete, there was an amelioration of the general and local condition. It is remarkable that the ergotine rectified menstruation in almost all the cases, rendering its recurrence regular, less profuse, and above all, less painful. It is true, as Dr. Hildebrandt remarks, that it is not easy to state precisely how the ergotine acts; but adds that it is very likely, that as a result of the contrac-

* *Gazette Hebdomadaire de Médicine, et de Chirurgie*, No. 27, page 443.

tions produced by the ergotine in the nutritive vessels of the tumour, and in consequence of the compression exercised in all directions by the contractions of the uterine walls, the nutrition of the tumour is impeded, and that in time fatty degeneration and absorption follows. It is probable that intra-uterine tumours are more easily modified than sub-peritoneal. Dr. Hildebrandt's formula is: watery extract of ergot (ergotine) three parts; glycerine, seven parts; and distilled water, seven parts. Such a solution is better, in his opinion, than an alcoholic one, as its use does not, he states, produce so much pain, and is not so liable to be followed by the formation of abscesses. He recommends that the injection should be made in the lower segment of the abdominal walls, between the umbilicus and pubis, and says, that after the operation, the patient may be allowed to walk home. There is no doubt but that an aqueous solution is less liable to be followed by unpleasant consequences than a spirituous one. I have adopted Dr. Hildebrandt's formula, and inject from three to five grains of ergotine on each occasion; at the same time, I must caution you against looking on the hypodermic use of ergotine, especially if the needle be inserted, as Dr. Hildebrandt advises, above the pubes, as a perfectly safe procedure. Encouraged by his experience I injected, as you may remember, about three grains of ergotine under the skin of the abdomen, in two of our out-patients a few days since, and allowed them to walk home. Both suffered severely: one was confined to bed for three days subsequently, so intense was the pain she experienced, and so considerable the inflammation which ensued. Indeed, I shall not again practice the hypodermic injection of ergotine, unless the patient can remain at rest.

I have now given you an outline of the pathology and treatment of the various forms of fibrous tumours, but there

yet remain two interesting and important phases of their history, to which I must allude before concluding the subject; the one, the increase and subsequent decrease in their size, which is sometimes observed; the other, their occasional absorption, transformation, or even elimination.

All fibrous tumours, especially the sub-mucous, when they hang into the cavity of the uterus, are liable to become œdematous, and to this cause many of the recorded cases of enlargement, and subsequent decrease in their size, is referable. But, in addition to this cause, menstruation and pregnancy undoubtedly influence both the condition and size of these growths. In many cases a fibrous tumour, which ordinarily is productive of no discomfort to the patient, becomes at each menstrual period the seat of pain. This is a fact I have several times noticed. That actual increase in bulk should also occur at the epoch is easily understood. The following case, illustrating this, is recorded by Dr. Ernest Lambert, of Paris:—"Age of patient, thirty-eight. For ten years past a tumour appeared before each menstrual epoch, disappearing in turn to re-appear again; for a year past it ceased to disappear, and had become the seat of severe pain." After death, a large fibrous tumour was found growing from the anterior surface of the uterus. From the same author I quote the two following instructive cases:—The first on the authority of M. Depaul, who relates that, having been summoned to a patient at a distance from Paris, he found three physicians in attendance on a primipara, supposed to be three months pregnant. She had suffered, for some time past, great difficulty both in passing water and in defecation, and for four days previous to M. Depaul seeing her, had been unable to empty either the bladder or rectum, even the catheter could not be passed except with great difficulty. She suffered from the most powerful expulsive pains, and her agony was

very great. M. Depaul recognised the existence of a large fibrous tumour, which filled the pelvis; the patient's state was one of great danger. With difficulty he reached the os uteri, introduced a sound and brought on premature labour. The next day a fœtus, flattened like a sheet of cardboard, was expelled; in a short time this tumour had decreased to a third of its former size, and at the end of four months was not larger than a small apple; it was situated in the anterior wall of the uterus, near the neck.

The second case was that of X., a woman æt. forty-four, who had given birth to several children; she was admitted into hospital on the 21st of March, 1869. The membranes had ruptured before her admission, and the feet of the child were in the vagina. The child was extracted alive, and in a few minutes the placenta was expelled. On placing the hand on the abdomen shortly after, a tumour as large as a child's head was felt at the fundus of the uterus; supposing that it was a case of twins, a vaginal examination was made, but no fœtus could be felt. As the placenta had come away, and as there was not any hæmorrhage, it was not deemed right to explore the interior of the uterus, but the hand laid on the abdomen easily detected the presence of a tumour as large as the head of a fœtus at the eighth month of pregnancy; below this large tumour a smaller one could be felt, which was supposed at first to be the elbow of the child; careful auscultation, however, failed to detect the sounds of the fœtal heart; the diagnosis seemed very obscure. The woman, however, declared that there was no cause for anxiety, as she had these tumours after each confinement, and that they always disappeared in a short time. The next day the large tumour was unchanged, but in place of the sharp projecting tumour, a globular one of smaller size existed; two days later, the large one only could be felt. She died of fever on the 12th

of April, twenty-three days after delivery. On making a *post mortem* examination, two fibrous tumours were discovered, the larger, the size of a hazel nut, the other still smaller. Dr. Lambert concludes by saying, "we saw in this case a woman, in whom at the moment of her accouchement, there existed in the parietes of the uterus tumours, of which one had the volume of the head of a fœtus, at the eighth month; these tumours could be as clearly made out as if they had been laid bare, for the abdominal walls were very thin and flaccid, and the autopsy discovered but two little fibrous tumours, of which the largest was but the size of a nut."* It would be quite foreign to the scope of these lectures, for me to enter on the subject of the influence which fibrous tumours exercise on pregnancy, but the two cases just quoted, clearly prove, that pregnancy stimulates them to a very dangerous degree; and this knowledge should certainly induce us to warn any woman, in whom they exist, should she consult us on the subject, that marriage ought not be thought of.

Fibrous tumours, when left to themselves, not unfrequently undergo changes, which may not only alter their character, but also result in an actual cure. One of the most remarkable of these changes is the development of cavities, or cysts, in their substance. These are especially likely to form in tumours, the texture of which is loose. According to Mr. Paget, this may be due either to a local softening, and liquefaction of portion of the tumour, with effusion of fluid in the part affected, in which case the cavities are irregular and without distinct parietes, or they may be true cysts, their cavity being lined by a membrane; in either case they may be small and numerous, or of such great magnitude as to be

* "Etudes sur les Grossesses Compliquées de Myomes Uterins." Par le Dr. Ernest J. Lambert. Paris. 1870.

mistaken for, and treated as, ovarian cysts, a very serious mistake indeed, and one unfortunately too often made. I shall, however, have more to say with reference to this point, when I come to speak of ovarian tumours, and shall therefore, for the present, defer making any further remark on this part of the subject.

But Nature also makes an effort, and not unfrequently a successful one, to effect a cure in these cases. Dr. M'Clintock has pointed out five methods by which this result may be attained—namely, by 1st, absorption; 2nd, calcareous transformation; 3rd, detachment; 4th, sloughing or disintegration; 5th, expulsions by the uterine contractions. Examples of absorption have been frequently recorded, and are sufficiently numerous to induce us to postpone surgical interference, if the patient be near the climacteric period of life, and the symptoms from which she suffer be not urgent. I have two such cases at present under observation. In one, menstruation, which for several years past has been very profuse, is now at the age of forty-nine become much more moderate in quantity; this patient refused to submit to any local treatment.

Cases are met with, in which calcareous deposits have been formed in the substance of fibrous tumours, and it is possible that the process may extend to the entire tumour, although I am not aware of any case being recorded in which this took place.

Detachment and separation is only likely to occur in cases of the sub-mucous variety, for in the intra-mural the formation of a long pedicle is very unlikely, and according to Dr. Matthews Duncan, never does take place, and unless this happens, the spontaneous detachment is a very unlikely occurrence.

But on the other hand, in the case of the embedded intra-mural tumour, a cure sometimes results by a process of

sloughing, which either gradually breaks up the growth, or if that process be confined to its muscular and mucous coats, frees the tumour, and permits its spontaneous enucleation.

Expulsion is but a variety of the curative process first spoken of; the uterus nearly always makes an attempt to expel any substance which is formed within its cavity, consequently polypi, and fibrous tumours, are, as a matter of fact, frequently extruded by its contractions; but in the case of the latter, the expulsion seems to be of but doubtful occurrence, unless as the final stage of the process of spontaneous enucleation just spoken of.

I have purposely avoided, at present, entering into the question of the differential diagnoses of fibrous tumours, because I think I shall treat this part of the subject with greater advantage when considering that of ovarian disease, with which alone it is likely to be confounded, for to mistake a fibrous tumour for pregnancy is hardly possible; the size and shape may, indeed, resemble that of the pregnant uterus, but the slow increase in its size, and the occurrence of menorrhagia, should alone in most cases suffice to prevent error. There is one symptom, indeed, often present in a fibrous tumour, which may mislead the careless observer, and that is the occurrence of a *bruit de soufflet;* this may possibly be confounded with the placental murmur, but the former is always synchronous with the pulse, and can generally be increased by pressure. It is of but little value as a diagnostic sign, and I merely mention it to put you on your guard, lest you should be misled by its occurrence to suppose pregnancy existed. You must not, however, forget that pregnancy is not incompatible with the presence of a fibrous tumour, and a very serious complication it is.

LECTURE IX.

Ovarian Cystic Disease—Pathology of—Unilocular—Multilocular, and Dermoid Varieties—Symptoms of—Diagnosis of.

As the operation of ovariotomy has been twice performed in our wards within a comparatively recent period, one of the patients being still in hospital, I do not think it likely that I shall have a better opportunity than the present of drawing your attention to the subject of ovarian disease. The affections to which these organs are liable have, till within the last few years, been looked upon as almost incurable, but now, as you are all aware, the extirpation of one, or both ovaries, when in a state of disease, is performed with great frequency, and although the results of the operation are most uncertain, and though patients doubtless die from the effects of it, who might otherwise live for years, still the number of women whom its performance has restored to perfect health is so great, that it will most probably hold its ground, and possibly even increase in professional favour.

The affection to which I shall first direct your attention, is that known as cystic disease of the ovary, by which term is understood the development of a cyst, or sac, or of several cysts, within the ovary, which are filled with a fluid, or semi-fluid substance produced in their interior. The development of cysts in the ovary is of very frequent occurrence. They are met with of all sizes, from that of a pea, to that of a large sac capable of containing many gallons of fluid. Pathologists

now agree that the ovarian cyst is in the first instance the mere dilatation of a Graafian vesicle. This question having been virtually settled by the discovery by Rokitansky, of an ovule within one of these diseased cysts. As the cyst grows all trace of its origin is lost, and the sac thus formed, becoming distended with fluid, gives origin to the simplest form of ovarian dropsy, to which, from there being but one cyst present, the term "unilocular" is applied. But very generally more than one cyst is developed, several of the Graafian vesicles becoming simultaneously affected. In the early stages we may have a cluster of small cysts, none of them perhaps larger than a currant; then, after a time, one or two of these seem to take on a condition of active life, and to become rapidly developed, swelling and increasing, till they attain a large size, while the others remain stationary or increase slowly. To this aggregation of the cysts, the term "multilocular" is applied; the multilocular tumour is much more frequently seen than the unilocular.

The contents of these cysts vary in as great a degree as do their appearance. The unilocular generally contain a light, straw-coloured fluid, very like serum in chemical qualities. Sometimes, however, it is turbid and ropy, and occasionally seems to contain blood. In the multilocular, the contents of the cysts even in the same ovary vary much; in some they are similar to that just described; in others, they consist of a thick gelatinous-looking mass, which is sometimes black and tenacious. Again, the walls of contiguous cysts, containing fluids essentially different, may be absorbed under the influence of pressure, and the contents becoming commingled, we have then a fluid, partly thick and tenacious, and partly aqueous. But in addition to this growth by the amalgamation of contiguous cysts, there is yet another and very important process by which these cysts increase, that is, by the develop-

ment within the parent cyst, of numerous other cysts. These, according to Dr. Hodgkin, whose observations have been confirmed by Mr. Paget, may be either sessile or pedunculated, and may cluster in warty-looking masses on the inner surface of the sac. Thus by the growth of the older cyst, and the rapid formation of the new, the ovarian tumour sometimes enlarges with an alarming rapidity, and then the disease generally proves fatal in a very brief space of time. But ovarian tumours are seldom made up of these fluid-containing cysts alone. We nearly invariably also find a considerable amount of so-called solid matter present; this solid matter is produced at the same time as the cyst; sometimes it is small in quantity, sometimes in bulk it exceeds that of the fluid containing the cyst, and it may form a tumour of enormous magnitude.

These partly cystic, partly solid tumours, to which the term "compound" is usually attached, are probably the most common form of ovarian disease. In them solid matter exists under various forms; one, which has been described by Mr. Spencer Wells, as being identical in structure with the adenoid growths, found in connection with the mammary gland, has been called by him *Adenoma* of the ovary. Another remarkable one was long looked upon as malignant, a view now proved to be erroneous; it is termed *Alveolar*, and is likened by Dr. Farre to a sponge, the cells of which are filled with a jelly-like substance. Other varieties of solid material are also met with in these cases of compound ovarian tumours, but it would be impossible for me to enter with any degree of minuteness into pathological details, for I desire in these lectures to confine myself as strictly as possible to the clinical aspect of the diseases of which I treat, and therefore must refer you to the writings of Paget and Farre, or to the admirable systematic works of Graily Hewitt, West,

Gaillard Thomas and others, for further information on the points which I feel compelled to omit.

There is, however, one other variety of ovarian cyst, which I must notice briefly, namely, that which contains hair, plates of bone, or fat, and in which even rudimentary teeth have been found, with or without any fluid being present. These tumours seldom attain any large size, and may remain indolent for years; on the other hand, they sometimes inflame, suppurate, and finally may cause death. These *dermoid* cysts, as they are termed, are a puzzle to pathologists; the fact that they sometimes are found in very young children, negatives the idea of their being the product of conception, while it is equally difficult to admit, as some have suggested, that they may be the imperfect development of an ovum, which has been impregnated, but which by some accident has become enveloped in the tissue of another more advanced ovum; in truth, however, this matter is as yet a complete mystery.

Having thus given you a brief outline of the pathology of ovarian tumours, I shall next call your attention to the consideration of what is of even greater importance to the practical physician, namely, their symptoms and diagnosis; the latter a matter often of the greatest difficulty, an error in which may entail the most serious consequences, jeopardising, and even sacrificing life itself. The general symptoms which usher in ovarian disease are very vague and uncertain. The patient may, and indeed probably does, complain of a considerable amount of discomfort in the ovarian region, before being conscious of any actual ailment, but as a rule, the first thing that attracts her attention, is the discovery of a tumour, or at least a fulness, in one side of the abdomen, which gradually increases in size. But often, even when it has reached a considerable size, the patient does not pay any attention to her state, or seek medical aid.

The patient at present in hospital under Dr. Walsh's care, as well as the one recently operated on by Dr. Barton, afford examples of ovarian tumours, following this course—the former, a married woman, aged thirty-five, tells you that about two years ago, while in the enjoyment of perfect health, she perceived a tumour about the size of an orange, to exist in the left side of the abdomen; that it was painless, only causing a kind of uncomfortable feel, and was so moveable, that she could push it quite from one side to the other of the abdomen without difficulty. This tumour slowly increased in size, and after the lapse of four or five months, began to cause her a good deal of distress. She also suffered constantly from a dull aching pain in the side, which occasionally became so severe, that she had to apply poultices, and mustard blisters, with the view of obtaining relief. Until about six months ago, she was able to move the tumour, but since that date it has become quite fixed. Menstruation has always been regular, both as to the time of its appearance, and the quantity of the discharge; latterly the appearance of the flow has brought her a certain amount of relief. The history of Dr. Barton's patient was in many respects similar. She was of nearly the same age as the other patient, viz., thirty-six; was married, and had given birth to two children, the youngest being eight years old. About two years ago, she also noticed a small globular tumour in the left side, which has ever since steadily enlarged. These two examples of ovarian disease, which are strikingly alike in their general outline, are typical of a large class of cases. But sometimes the tumour escapes observation, till the size which the abdomen has attained attracts the patient's attention; this is specially likely to happen, if the disease occur simultaneously with pregnancy. Mr. Spencer Wells records several examples of such cases.

In addition to the symptoms enumerated, there are often

various others present referable to pressure on the neighbouring viscera, such as irritation of the bladder, or interference with defecation; but these are always vague, and for the purpose of diagnosis, valueless. More definite, and more important are the paroxysmal attacks of pain, from which the patient not unfrequently suffers. These may be due to the tension of some of the folds of the peritoneum, but they are far more frequently caused by transitory attacks, of local peritonitis, and as a result, we often find intimate adhesions formed with the surrounding structures, especially with the omentum: such adhesions add greatly to the difficulty, as well as to the risk of operations, undertaken for the extirpation of these tumours. In the vast majority of cases, however, the disease has advanced to a stage, in which either a well-defined tumour, or distinct fluctuation, or both, exists in the abdomen, before we are called on to give a diagnosis as to the nature of the disease from which the patient suffers. This was so with the cases recently in this Hospital—in both, large tumours and evident fluctuation existed for a long time prior to their seeking medical aid.

When this stage has been reached, the general health nearly invariably suffers to a greater or less degree. In the patient at present in Hospital, and on whose case I am specially commenting, it was merely to the extent of loss of flesh, while in the other there was great emaciation, accompanied by dyspnœa the result of the size of the tumour, also loss of appetite, and a long train of secondary symptoms. Menstruation may continue to be normally performed; this was so in the patient whose case we are considering, but in many it becomes irregular as the disease progresses, or is altogether suppressed. When the latter occurs, the patient, if she be married, naturally attributes the increased size of the abdomen to pregnancy, and even in unmarried women, as happened in

the well-known case of a lady of rank, the unjust suspicion of pregnancy, and its attendant disgrace, has been attached to the sufferer; an injustice which the exercise of but a moderate amount of skill should prevent.

The leading features of a case of ovarian cystic disease then, are these: we have a tumour of variable size, the gradual growth of which has generally been traced by the patient. The surface, in the case of the unilocular tumour, is smooth and even, while in the multilocular, the separate cysts impart a lobulated, irregular feel, to the hand passed over the abdomen. Fluctuation is generally distinct in the former, and can be felt everywhere over the surface. In the latter, this is only the case here and there, or it may be detected in but one situation, while in them, we can also nearly invariably make out at some point, a firm, hard mass, indicative of the existence of solid matter. The whole of the anterior surface of the abdomen, is, in the case of either form of ovarian disease, dull on percussion, the intestines being forced back behind the tumour. A vaginal examination, which should in all cases be made, will prove the uterus to be of its natural size and shape; however, in many cases that organ is displaced, being drawn upwards and anteflected, but this is far from being invariably so.

The conditions or affections with which cystic disease may be confounded are numerous. Extra-uterine fœtation, ascites, especially if complicated with the existence of a large spleen, tumours of the omentum, and cancerous tumours in various situations, are liable to be mistaken for ovarian disease, but this has specially been the case with regard to fibro-cystic disease of the uterus. Of twenty-three cases recorded by Mr. Clay, in which ovariotomy had been attempted, but in which the operation was abandoned in consequence of the disease proving not to be ovarian, twelve were uterine; in two no trace of a tumour whatever could be found.

While the enlargement of the abdomen from the presence of an ovarian tumour when menstruation is absent, may easily give rise to the idea of pregnancy, it seems hardly possible that an impregnated uterus could be mistaken for an ovarian tumour; yet this mistake has been made, and in order to guard against the recurrence of a similar error, you should invariably seek for the usual symptoms and signs of pregnancy, some, or all of which, will be sure to be present in a more or less marked form. A careful vaginal examination, will prove the uterus itself, and not the ovary to be the seat of the enlargement. This is one of those cases in which the practice of ballotment may possibly be useful; you must, however, always bear in mind, that pregnancy is not incompatible with the existence of disease of at least one ovary.

The diagnosis between ascites and ovarian dropsy, is not in general difficult. It is with the simple unilocular form that the question is most likely to arise. The history of the case, often aids us materially in forming our opinion, for the patient is frequently able to tell you that the swelling commenced at one side, by the gradual enlargement of a small tumour, which continued to increase till it extended across the abdomen, a history which would be incompatible with the idea of ascites; in ovarian dropsy also, there is almost invariably dulness on percussion over the whole front of the abdomen, the very reverse of this occurs in ascites, for in that disease the intestines are almost as invariably in contact with the anterior abdominal wall, and consequently, percussion there yields a resonant sound; fluctuation too is most clearly felt laterally, in the lumbar regions, in ascites, that being the point at which it is likely to be wanting in a case of "Ovarian Dropsy."

I cannot however go further into these details, much less would it be possible, even if it were desirable, for me to enter on the consideration of the differential diagnosis between ovarian cystic disease, and that of all the other affections with

which it may possibly be confounded, and I must content myself with having laid before you the distinctive features of the former. Your other clinical teachers will explain to you those of the others, and you must for yourself weigh the relative value to be assigned to each symptom, when called upon to decide, as to the nature of the affection from which the patient suffers. But it is essential before passing from the subject of diagnosis, that I should point out to you the principal distinctive features which exist, between ovarian disease, and fibro-cystic degeneration of the uterus; first, because both diseases are strictly within the limits assigned to the obstetric surgeon; and secondly, because the latter is that which is specially liable to be mistaken for the former, and indeed so closely simulates it, as sometimes to mislead the most careful observer.

I have in a previous lecture, given you an outline of the leading features of fibro-cystic disease of the uterus, and I think I shall best aid you now, by throwing these into contrast with those of ovarian disease, so as to present them to you in a tabular view, premising, however, that there is not one of the symptoms enumerated which is not liable to great variation, and that therefore, the most extreme caution must be exercised in forming an opinion based on them. I should also add, that I am now speaking only with reference to tumours of considerable size, and which extend entirely, or very nearly, across the whole abdomen.

Ovarian Cystic Disease.	*Uterine Fibro-cystic Disease.*
May occur at any age, but probably more frequent before the age of thirty-six than after it. Of 281 cases re-	Rarely met with in early life: of twenty-three cases recorded by Mr. Clay, in which the operation was abandoned

corded by Mr. Clay, and of which the ages were known, 168 were under thirty-six, sixty-eight of these were aged between seventeen and twenty-five years.	in consequence of the disease being extra ovarian, thirty-four was the age of the youngest patient.
Previous history often throws light on the diagnosis, a tumour being frequently felt at one side, which has gradually extended across the abdomen.	Such a history unlikely to occur, growth usually more central.
Growth of tumour, comparatively rapid.	Growth, comparatively slow.
Menstruation sometimes normal, but frequently irregular, and as the disease progresses is liable to be suppressed; profuse menstruation of rare occurrence.	Menstruation normal, if tumour be sub-peritoneal: likely to be profuse if in substance, or interior of uterus.
Uterus of its normal size, frequently drawn upwards, so as to be difficult to reach, and anteflected and moveable, unless bound down by adhesions.	Uterus elongated if tumour be in its substance or interior. Sound often passing for a considerable distance into its cavity, when tumour is rotated sound moves with it.
Tumour becomes softer as it increases in size.	Time not likely to alter consistence of tumour.

Urine voided without difficulty.	Difficulty in passing water occasionally experienced from pressure on bladder and urethra.
Generally health always suffers more or less, sometimes to a great degree.	General health does not suffer, unless menorrhagia be present.

If care be taken to weigh each of the distinctive features here enumerated, the risk of making a serious error in diagnosis will be greatly lessened. Above all, let me impress on you the necessity of your using the uterine sound. It affords us the most important aid in forming our diagnosis. In the great majority of cases of large fibrous growth from the uterus, whether solid or fibro-cystic, the uterus is either embedded in, or so firmly attached to the tumour, that it cannot be moved independently of it; a point which can easily be ascertained, by inserting the finger into the rectum, and keeping it there, while the sound previously passed into the uterus is rotated gently; and again the sound should be held steadily, while an assistant endeavours with both hands, to rotate the tumour itself; methods of manipulation which often enable us to decide whether the uterus be attached to the tumour or not.

Still even here error is possible, for, if a fibrous tumour spring from the uterus by a moderately long pedicle, or even by one as short as that shown in Plate V., we may be able to move the uterus to such an extent, as to lead to the conclusion that it is free; and on the other hand it is possible, that in a case of ovarian disease, the uterus might be so bound down by adhesions as to be immoveable.

Some idea of the difficulty of diagnosing between fibrous

tumours of the uterus when in a state of cystic degeneration, and ovarian cystic disease, may be gathered from the following case, recorded in Volume XII. of the Transactions of the London Obstetrical Society. The woman was aged thirty-six. An abdominal tumour had been discovered five years previously, which during the last six months had increased rapidly. On admission into hospital, a large tumour was felt which evidently contained no cyst large enough to warrant tapping, but which did not feel so hard as a fibrous tumour of the uterus; no vascular murmur was audible, and it appeared to move quite independently of a uterus of normal size. When the tumour was exposed, it proved not to be ovarian; it sprang from the upper part of the posterior surface of the fundus uteri by a short pedicle. The tumour was removed and was found to weigh thirty-four ounces, and was seventeen inches in diameter. The fact of the tumour growing from almost the very fundus of the uterus doubtless permitted that organ to have a greater amount of mobility than is usually met with in such cases, and when I add the operator was Mr. Spencer Wells, you will agree with me that no means were omitted by that distinguished surgeon for arriving at a correct opinion as to the nature of the tumour.

LECTURE X.

Ovarian Disease continued—Effect of on Duration of Life—Ovariotomy—Statistics of—Tapping of Cyst—Injection of Cyst—Congestion and Inflammation of Ovary.

We shall now assume that after having carefully weighed all the symptoms, you have made up your mind that the case you have been called to see is one of ovarian disease; it still, however, remains for you to consider what its probable course will be, for on this point depends your future treatment. The most reliable data from which we can form an estimate as to the probable duration of life, in the cases of cystic disease of the ovary, are those supplied from the tables of Mr. Stafford Lee. Of 123 cases tabulated by him, nearly a third died within a year, and rather more than one-half within two years from the date at which the first reliable symptoms of the disease were noticed, a duration hardly longer than that of cancer, while but seventeen lived for nine years or upwards; of these seventeen, one survived for fifty years. From these tables we may fairly assume that the duration of life, in cases of the disease under consideration, is unlikely on an average to exceed three or four years. As a rule, you may consider that the chance of life being prolonged, is in an inverse ratio to the rapidity of the growth of the tumour, for if this be rapid, the patient will speedily be worn out, and die exhausted no less by the effects of the disease, than by the distress caused by the size of the tumour itself, even should no intercurrent attack carry her off after a brief illness.

The simple unilocular form seldom becomes dangerous to life, till the tumour, by its great size, interferes with respiration, and by its pressure, impedes the abdominal viscera in the due performance of their functions. When this stage is reached, if, with the view of relieving the patient's sufferings, we have recourse to tapping, we may actually accelerate the fatal termination of the case, the drain on the system caused by the refilling of the sac, increasing the previously existing exhaustion.

The rupture of a cyst is another possible cause of death; this seems to be more likely to happen in the multilocular, than in the unilocular tumour, but it certainly is not of very frequent occurrence; in all these cases there is a great proneness to inflammation of the abdominal, and even of the thoracic viscera, and an attack which would in others be of no importance, becomes, when occurring in the patient suffering from ovarian dropsy, a very serious matter, and therefore not a few die of diseases not directly connected with the original malady, but which is not the less on that account chargeable with the result.

The certain and speedy death, which in the great majority of cases awaits the sufferer from ovarian disease, has decided surgeons to attempt its cure by the extirpation of the diseased organ; the question then, which in each case has to be decided is, will the patient if left alone, have a fair chance of being one of the fortunate twelve who, out of every 100, may be expected to live for ten years or upwards, or one of the eighty-eight who, if not operated on, must in a third of that time be consigned to their graves? In deciding on this momentous question, we should never for one moment lose sight of the fact, that there are but two possible terminations to operations for the extirpation of ovarian tumours, the one being perfect recovery, the other speedy death.

The most important element in the calculation undoubtedly is, the rapidity with which the tumour is increasing in size; for if this be rapid, the case must soon terminate fatally. Thus, in Dr. Barton's case, the circumference of the abdomen increased four and a half inches in one month; this patient we may say with almost positive certainty, would have died under any circumstances in a very brief period, and therefore the operation was called for, but if the increase be very slow, we should hesitate before sanctioning it. Again, the state of the patient's health will materially influence your judgment; if it be good, and that she seems to suffer only from the ordinary effects caused by the presence of a large tumour in the abdomen, she will be in the most favourable state for the operation; I am convinced that the state of health frequently accounts for the results which follow its performance. The two cases I am specially calling your attention to exemplify this; neither were unhealthy women, but the one, was in a weakly condition, and looked delicate, while the other was in very good general health; she, as you have just had an opportunity of seeing, made a most excellent recovery, while in the former peritonitis supervened, and rapidly proved fatal; a difference in result which can only be accounted for, by the supposition that the state of the patient's health predisposed to the occurrence of inflammation.

The unfavourable termination in this case, influenced me in advising that the operation should be performed at once in the other, and that it should not be deferred till the increasing size of the tumour rendered it more urgent, for I believed that the chances of her recovery were greater then than they would be later on, when the progress of the disease must have more or less undermined her health; an opinion which, I am happy to say, the result has verified. If the patient be suffering from any other organic disease,

ovariotomy is hardly justifiable; it would, however, be impossible to lay down an exact rule on this point. The presence of firm and extensive adhesions greatly increase the risk of an unfavourable result; indeed, when the adhesions between the surface of the tumour and the surrounding parts are very intimate, the operation almost invariably terminates fatally, but the diagnosis of adhesions is very difficult, I may almost say impossible, to make. By grasping the integuments over the most prominent parts of the tumour and raising them up, and by endeavouring by careful manipulation to make them glide over its surface, a fair estimate may be formed as to whether they exist anteriorly or not, but we have no means of ascertaining what may be the condition of the tumour posteriorly; we are therefore necessarily to a great degree in ignorance on this point. The repeated occurrence of attacks of sharp pain are however of importance; if the patient has not suffered much, extensive adhesions are not likely to be met with, but if paroxysms of pain have been frequently experienced, we may with confidence anticipate that adhesions exist.

The simpler the tumour is, the greater chance there exists of a favourable termination, and the greater amount of solid material, the less hopeful is the case; you may take it as an established rule, that the further the tumour departs from the true cystic type, the more unfavourable the prognosis becomes. I am always unwilling to sanction the operation of ovariotomy, where the tumour is evidently nearly solid.

But even under the most favourable circumstances the mortality in cases of ovariotomy is great; in the tables of results appended to the edition of Kiwisch's work "On Diseases of the Ovaries," translated by Mr. Clay, of Birmingham, himself a successful operator, the results of 537 cases are recorded, 212 as successful, and 183 as terminating fatally, which may

be considered as implying that fifty-three *per cent.* recovered, and forty-seven *per cent.* died; but in the large number of 142 cases the operation had to be abandoned, either from the adhesions being too intimate to permit of the tumour being removed, from the disease being discovered to be extra ovarian, or from partial excision only having been effected. Of these, fifty-five died, and this number must, in order to make the estimate as nearly as possible accurate, be added to the 183 fatal cases already mentioned. We are then to deduct, from the 537 recorded cases, eighty-seven in which the operation was commenced but not carried out, but who nevertheless survived; this leaves 450 to be accounted for; of these 212 were perfectly successful, 238 terminated fatally, showing that nearly fifty-five *per cent.* of the cases operated on terminated fatally.

But though I quote these statistics and have analysed them for you, you must not accept them as being a fair index of the results of the operation at the present time, for the mortality has steadily decreased during the ten years which have elapsed since these tables were published. The errors in diagnosis are now comparatively few, cases unsuitable for operation are rejected, while it is becoming rare to hear of the operation having to be abandoned. Still, making every allowance for improved diagnosis, and for greater care in the selection of cases, I do not think we can hope to raise the percentage of recoveries permanently above sixty-five *per cent.* I am aware that a higher estimate than this of the success of the operation is made by others. Thus, Dr. Graily Hewitt states that the recoveries are now from sixty-five to seventy-five *per cent.*, perhaps this may be true if errors in diagnosis be omitted, but this I consider it would be wrong to do, while the results of Mr. Spencer Wells' fourth series of

one hundred cases of ovariotomy are still more favourable. Of 100 cases in which the operation was completed, seventy-eight recovered, twenty-two died, and thirteen other cases in which the operation was commenced but not completed, or exploratory incisions only made, seven recovered, six died. He shows that the mortality after ovariotomy is in his practice steadily diminishing; of his first 100 cases, thirty-four died; of his second 100, twenty-eight died; of his third 100, twenty-three died; of his fourth 100, twenty-two died; in his private practice he has of late lost but fourteen *per cent.* This is indeed, as it was termed by Dr. West, "a splendid success," still I cannot but feel that no small portion of this success is due not only to the dexterity of the operator, but to the skill which he has exhibited in selecting suitable, and rejecting unsuitable cases, a dexterity and skill which all cannot hope to attain, and I fear that the average of all the operations undertaken in Great Britain, will still show a considerably higher mortality than that here recorded. I am far from wishing to discourage the operation in suitable cases, and am strongly of opinion that if greater discrimination in selection be used, if the operation be performed earlier, and in patients free from symptoms of other diseases, that the results will be still more favourable, nor do I wish to overlook the fact, that even if only sixty-five per cent. of our operations prove successful, we restore to health more than fifty women out of each 100 cases, who would have died in about three years, and this, after allowing for the full proportion, who if not treated at all would have lived for a comparatively long period.

I have hitherto spoken only of excision of the diseased ovary, an operation which though long known, has only been extensively practised within the last few years; but tapping

the cyst has been frequently performed, both as a palliative measure, and also as the first step towards a radical cure. With the former view it is practised whenever the distension of the abdomen is so great as to interfere with respiration. Under such circumstances it is always justifiable, but it is often productive of but very temporary relief, and sometimes only aggravates the patient's condition, for if the cyst fills rapidly again, as it generally does, the secretion of such a large quantity of fluid further weakens the already debilitated patient, and moreover tapping is sometimes followed by the rapid growth of other cysts, which seem to have lain quiescent previously, their development having been apparently retarded by the pressure exercised on them by the fluid. Inflammation too may supervene and terminate fatally, and lastly, bleeding of an alarming character has been known to occur, occasioned by the trocar wounding a large vessel. This may take place either into the cyst or into the abdominal cavity, but even where no accident occurs, alarming prostration, and vomiting, have followed on the evacuation of the cyst, and in not a few cases has fatal peritonitis ensued, so that the operation, simple as it is, is not free from danger. According to Kiwisch, of 130 cases of tapping, twenty-two died in a few hours or days, twenty-five more died within six months, and he concludes by stating his conviction, that all these 130 patients had their lives shortened by the operation.

There have been cases no doubt recorded in which after tapping, the cyst has shrivelled up and a permanent cure resulted, but they have been of such very rare occurrence as to hold out little inducement to us to follow the practice, and indeed I am not inclined to advise you to perform the operation of tapping except when compelled to do so as a palliative measure.

Dr. West advises that the operation of ovariotomy should not be performed till the cyst has been tapped. I cannot however concur with him on this point, but I admit that when the cyst is emptied and during the process of refilling, its relations to the surrounding parts can be more readily made out, and also that the presence or absence of adhesions may perhaps be ascertained. Tapping also informs us whether the contents of the cyst be viscid or aqueous, whether the tumour be unilocular or multilocular, and may perhaps enable us to decide what amount of solid matter is present. In obscure cases therefore, it is sometimes advisable to tap for the purpose of aiding us in forming our diagnosis.

When for any reason you decide on tapping an ovarian cyst, I recommend you to have your patient in bed, and to let her lie on her right side, the abdomen being brought well over the edge of the bed. It is advisable to have a bandage round the patient, as is usual in tapping for ascites, which is gradually, but not unduly, tightened as the cyst is emptied. It is better to use a moderately large trocar. Mr. Clay recommends a curved one. It is usual also to have an India-rubber tube attached to the canula as suggested by Mr. Spencer Wells, through which the fluid escapes into a vessel placed to receive it; should however the contents of the sac be viscid, this adds to the difficulty of its escape. If the canula becomes plugged, it will be necessary to pass a flexible catheter through it for the purpose of clearing the instrument, a matter sometimes of some difficulty. After a cyst has been emptied a moderately tight bandage should be kept round the abdomen and perfect rest enjoined for some days.

Tapping, when performed with the view to a radical cure, is

only preliminary to injecting the cyst with some stimulating fluid—iodine being that usually preferred : the chief objection to the practice is, that it is only suitable to cases in which the cyst is single, for if the tumour be multilocular no benefit is likely to follow. The results are under any circumstances very uncertain, sometimes none whatever have followed, while in others the effects were most marked—prostration, vomiting, and inflammatory symptoms—occasionally resulting in a cure of the disease, but sometimes terminating in death. The operation from its uncertain and sometimes fatal results is now seldom performed. I have not had any personal experience of it.

You must have inferred from what I have said that medical treatment is useless in cases of ovarian dropsy, excepting so far as the judicious administration of tonics is concerned, and I trust none of you will ever be guilty of the folly, to use no harsher expression, of salivating or blistering any patient you may meet with who is suffering from this disease.

I have hitherto spoken only of cystic disease of the ovaries, because it is by far the most common as well as most important form of disease to which these organs are liable, but solid tumours of the ovary are also occasionally, though very rarely, met with. I have never seen an example of this form of disease. Cancer too may attack these glands. I need hardly add that when this occurs the case is beyond the reach of treatment.

In addition to these affections which involve change in structure, the ovary may be attacked by inflammation. Acute inflammation of the organ is very rare, but chronic inflammation, or at least congestion, is common enough. To this cause we may probably attribute the pain, which in so many cases is experienced over the seat of the left ovary, and

which is so invariably present in women who are suffering from many forms of uterine disease. This pain, which is aggravated by pressure or by exercise, generally shoots down along the inside of the thigh; in severe cases nausea is sometimes complained of, and even vomiting may be present. The left ovary is the one by far the most frequently engaged; why this should be so, I am quite unable to say, but it is a notable fact which probably you have all observed. Menstruation is occasionally affected, sometimes becoming scanty and attended with pain, but on the other hand I am satisfied that a condition of ovarian irritation short of actual inflammation, but in which there is probably a certain amount of congestion present, is a not infrequent cause of menorrhagia. If from the occurrence of the symptoms enumerated you come to the conclusion that inflammation or congestion of the ovary exists, you will best relieve that condition by the application of a few leeches over the seat of the pain, by the exhibition of mild cathartics, and of full doses of the bromides of ammonium or potassium, and subsequently by blistering. We had a good example of chronic inflammation of the ovary in a young woman recently in the medical ward, whose prominent symptom was vomiting. I shall have to refer to her case again; at present I can only add that after the application of three or four leeches, the vomiting, which had been persistent for weeks, was temporarily checked.

You must not however suppose that every case of pain in the ovarian region is necessarily due to inflammation; in by far the majority of these cases it is merely sympathetic, and is kept up by the existence of some uterine ailment.

Subacute inflammation of the ovary is not of itself likely to be serious, but the constant pain which the patient suffers is very wearing, and exposure to cold and many other causes,

may at any time aggravate it, and cause serious symptoms to arise from the inflammation extending to the peritoneum, and therefore the affection should never be looked upon as being of no importance.

In many cases of left-side pain depending on ovarian congestion, or irritation, I have found great benefit to follow the inunction twice a day over the affected part, of an ointment composed of equal parts of veratria ointment and of the ointment of the iodide of potassium, to which, in some cases, I add a smaller proportion of the unguentum cantharidis.

LECTURE XI.

Inflammation of the Cervix Uteri—Ulceration of—Symptoms of—Treatment of by Depletion, Nitric Acid, and Styptic Colloid—Pelvic Cellulitis—Pelvic Hæmatocele.

The great frequency with which inflammatory affections of the unimpregnated uterus occur, resulting as they do in some of the most distressing and intractable ailments to which women are liable, renders the subject of inflammation of the uterus one of great importance. To it I propose to call your attention to-day.

The interior of the uterus is divided into two parts by the os internum; the upper part, that of the body, is triangular in shape and is lined by a very thick mucous membrane abundantly supplied with blood vessels and smooth on the surface. The lower part, commonly designated the cervical canal, is circular, bulging in its centre, and contracted at each extremity. It too is lined with mucous membrane, continuous with that of the body but differing from it in being thinner, and in being arranged in transverse folds, which form the *arbor vitæ*, the interstices between which conceal numerous mucous follicles and glands. Both these portions may simultaneously be the seat of disease, or one may be attacked independently of the other.

When speaking to you on the subject of menstruation, I pointed out the important part which the mucous membrane

lining the cavity of the uterus played in the performance of that function; how easily the discharge which at the catamenial epoch it pours out might be checked, and the ill results to be anticipated from such an occurrence. But, in addition to affections following on interrupted, or suppressed menstruation, an unhealthy condition of both the body and cervix is likely to occur as the result of abortion, or of imperfect recovery after labour at the full term, when the involution of the uterus being retarded, that organ remains in an enlarged and congested condition, a state most favourable to the occurrence of inflammation. Other causes too, not so clearly traceable, produce congestion and inflammation of the cervix, and, less frequently, of the body of the uterus.

Inflammation of the cervix is never of a very acute character, but the cases we meet with in practice vary greatly in intensity. The more acute form has two well-marked stages; in the one, active congestion of the part exists, manifested by great vascularity of the mucous membrane covering the vaginal portion of the organ which becomes of a bright pink colour, and by engorgement and tumefaction of the substance of the cervix which however feels soft and elastic to the touch. In the other, the mucous membrane being denuded of its epithelial covering, presents the appearance of an irregular abraded surface of a deep red hue, which pours out a profuse muco-purulent discharge, and is studded with numerous papillæ. The os uteri is patulous, and its lips everted, while the cervical canal is blocked up by a thick, tenacious discharge secreted by the cervical glands. This, in appearance, resembles the white of egg, and is always pathognomonic of endo-cervical inflammation. If you succeed in removing it, and get a glimpse at the membrane lining the interior of the cervix, you will find it also to be of a bright red colour; we seldom however see a case in the very early

stage, the symptoms rarely being sufficiently severe to induce the patient to seek medical aid. But generally ere long the inflammation extends to the cervical canal, and then, her sufferings being increased, she applies for relief.

We have at present in the house, a well-marked example of inflammation of the neck of the womb in an early stage, occurring in an unmarried woman. The mucous membrane covering it is smooth, nor does abrasion at any point exist; the os uteri is patulous, and a copious, transparent, tenacious discharge issues from the cervical canal, proving that its lining membrane participates in the disease.

Now contrast the appearances presented in this case, with those you saw in the patient occupying the opposite bed. S. B., æt. thirty-four, has had two children, her illness dates from the birth of the last, two years ago. The cervix is greatly thickened and indurated; its vaginal portion, which is of a deep red colour, instead of being smooth and even as in the other, is covered over with little red papillæ which bleed on being touched, while a copious muco-purulent discharge, that has to be wiped away before you can see the parts, exudes from its whole surface. The os uteri is very patulous, and is plugged with a mass of tenacious, opaque mucus, which when removed after much trouble, discloses a cervical canal, whose lining membrane is seen to be congested, and covered with large vascular elevations. Here you have an example of the second stage of cervical inflammation; the substance of the cervix is thickened as in the former case, but, in addition, the mucous membrane is denuded of its epithelium. The surface thus exposed is covered with granular-looking elevations, indeed these have been mistaken for granulations, they are not however new growths at all, but merely the papillæ which abound in this situation, and which have become enlarged and hypertrophied by the existence of the surrounding in-

flammation: finally you have a profuse muco-purulent discharge secreted from the diseased surface. The roughened condition of the mucous membrane with its enlarged and prominent papillæ secreting a muco-purulent discharge, being a secondary condition the result of the previously existing inflammation.

The case I have just been alluding to affords also an excellent illustration of the condition termed "ulceration" of the cervix, a term the accuracy of which has been warmly disputed. Dr. Bennett defends its use, and on the authority of Petit defines ulceration as "a solution of continuity from which is secreted pus, or a puriform, sanious, or other matter;"* but as we usually associate the idea of ulceration with a loss of substance of greater extent than that produced by the mere removal of the epithelium, I am inclined to agree with the view held by Dr. Farre, that the term ulceration should only be applied to cases in which the loss of substance extends deeper. But if Dr. Farre's definition be strictly adhered to when speaking of affections of the uterus, examples of ulceration of that organ will prove to be very rare. I have never seen as much as one instance of true ulceration of the cervix uteri, as defined by him, unconnected with specific disease; indeed I do not believe that such occurs: all this however is a mere dispute about a term, and although I do not think it to be strictly correct, still, to avoid confusion, I shall continue to apply the word ulceration to the condition we are considering.†

But, cases less severe than the one of which I have been speaking constantly occur; in some, there is mere abrasion

* "Inflammations of the Uterus," page 82.

† An admirable summary of the arguments for, and against, the theory of ulceration, will be found in Dr. Graily Hewitt's work "On Diseases of Women."

of the vaginal surface of the cervix, a circle of limited extent surrounding the os uteri, appearing red and abraded, a condition which terminates abruptly just inside the os; or, you may have cases intermediate in severity, in which the vaginal portion of the cervix being denuded of its epithelial covering, presents an irregular surface of a deep red colour studded with the hypertrophied papillæ I have already spoken of, the cervical canal however not being implicated in the disease. Such a surface as that which I have last endeavoured to describe, almost invariably secretes a copious purulent discharge, and, in addition, there is usually a certain amount of vaginitis present. You had an excellent example of this in the case of Mrs. H.: the discharge in her was so profuse and weakening, that it was for the cure of it she sought relief.

The milder forms of ulceration of the cervix are not of themselves of any great importance; they seldom give rise to distressing symptoms, nor do they necessarily cause sterility, even when as severe as in the case of Mrs. H., for she became pregnant long before the ulceration was cured; but then the mucous membrane of the vaginal portion of the cervix alone was engaged. It is quite otherwise when that lining the cervical canal is implicated, for in that case the os becomes patulous, its lips are everted, and a copious, viscid discharge is invariably poured out by the cervical glands; this completely fills up the os, and is seen hanging from it as a rope of thick, semi-opaque mucous. Such a discharge is an effectual bar to conception, and is pathognomonic of cervical disease; whenever you see it, you may at once pronounce that the patient is suffering from inflammation of the mucous membrane lining that canal. Perhaps the best name to give to this condition is endo-cervicitis, by many however it is termed cervical catarrh. In it, the lining membrane, being congested, is of a deep-red colour, subsequently hypertrophy

takes place, and the rugæ become prominent, while its surface is covered with numerous vascular papillæ. When this stage is reached, not only is the os patulous, but the cervical canal is relaxed throughout its entire length, as high at least as the os internum.

If you proceed to introduce a sound in a case such as I am describing, you will probably find it to be a matter of considerable difficulty; this difficulty is caused by the point of the instrument becoming entangled first in one, and then in another, of the folds of the hypertrophied mucous membrane, and it is only after the lapse of some time, and the exercise of much patience, that these difficulties can be overcome, and the cavity of the uterus reached. Some drops of blood are nearly certain to follow the withdrawal of the sound; this should not occur when the lining membrane of the cervical canal is in a healthy condition.

In addition to these local symptoms, others, of a more general character, are invariably present; thus the patient is nearly sure to complain of back-ache, and of pain and tenderness on pressure over the ovary, especially on the left side; pain too is frequently complained of along the edge of the false ribs. When this is *severe*, and particularly if it becomes *aggravated at the approach of the catamenial period*, I look on it as indicating that the disease has extended up to the os internum. Then, irritability of the bladder and often distressing pruritus are frequently present; and, after a time, menstruation is very likely to become profuse and weakening—indeed, not unfrequently it is for the cure of the menorrhagia that we are consulted. This was so in the case of Mrs. B., to whom I alluded when speaking of menorrhagia, and of several others whom from time to time we have had in hospital.

A very instructive case was that of the young married

woman, Mrs. ——. Her illness commenced soon after marriage; she did not suffer much pain, but latterly had hardly ever been free from a sanguineous discharge; there was also profuse leucorrhœa present. Before coming under my observation she had taken various astringents without benefit. The cause of the failure of this treatment was apparent, for on making a digital examination, the cervix felt as soft as a piece of sponge, and on looking at it through the speculum, it presented an appearance which I can only compare to that of a large raspberry. The slightest touch was followed by copious bleeding. You saw that, with the view of checking the hæmorrhage I brushed over the surface with the saturated solution of perchloride of iron in glycerine; this, was for that purpose, effectual; subsequently, as you may remember, I applied repeatedly the fuming nitric acid and the part gradually assumed a more healthy appearance. She was discharged cured, but not till after the lapse of many weeks. I was inclined to attribute the condition of the cervix in this case, to excessive sexual intercourse in a young woman of delicate constitution.

In the foregoing outline, I endeavoured to trace the progress of a case commencing in inflammatory congestion of the substance of the cervix, in which the mucous membrane covering its vaginal aspect, participating in the disease, becomes after a time the seat of ulceration; that lining the cervical canal also, being implicated in the inflammatory change. This is a very common course for the affection to follow, and an example of it is afforded, in the patient to whose case I have just drawn your attention. It is, however, far from being the invariable one, for without doubt inflammation in many cases first attacks the cervical mucous membrane; ulceration of its vaginal surface following; the inflammation, and consequent induration, slowly extending into the substance of the cervix.

But we may have cervical catarrh, indicating the existence of inflammation of that canal, while the mucous membrane covering the lips of the uterus remains perfectly healthy. When this condition exists, we generally find that the case is one of long standing, and that it has crept on slowly and insidiously, the patient dating back the commencement of her illness many years. I shall refer to this condition again by-and-bye.

Your treatment of cases of inflammation of the cervix uteri must be guided by the stage which the disease has reached, and the form which it has assumed, as well as by the patient's state of health. We seldom see the acute form till the stage of ulceration has been reached. It is too commonly the custom to treat all such cases on one method, namely, by applying nitrate of silver, either solid or in solution, to the surface of the cervix, a treatment in general altogether insufficient, and sometimes positively injurious. Bear in mind that you are dealing with inflammation, or, at least, congestion of the organ, and it is rational that your first step should be to relieve that congestion by local blood-letting. There are two ways of effecting this,—the one by the application of leeches, the other, by incising or puncturing the cervix. Leeching is a very troublesome and tedious process, as well as most uncertain in its results: at one time you cannot get the leeches to take at all, or at most not more than one or two, at another, they will bite freely, and, perhaps, in spite of all the care you can take, will fasten on the vagina, and profuse bleeding may follow. I have seen the bleeding from this cause so profuse as to compel me to plug the vagina; I therefore now rely altogether on the other method. I practice it very much in the way recommended by Dr. Hall, of Brighton, in the *Lancet* for the 3rd September, 1870.

Merely scarifying the surface of the cervix is not sufficient, especially in a case of a very chronic nature and accompanied by induration; I therefore always puncture the vaginal portion of the cervix, tolerably deeply, in two or three places. The depth to which I make the point of the knife penetrate varies from $\frac{1}{8}$ to $\frac{1}{4}$ of an inch, or even more, according as the cervix be soft and vascular or firm and indurated, for in the former case it bleeds very freely, in the latter it is sometimes difficult to obtain a sufficient quantity of blood. Dr. Hall has had a knife specially made for the purpose by Coxeter (Fig. 12), but I often use a long straight-backed French bistoury, terminating in a very sharp point which, if I have not the former at hand, answers very well. One great advantage of this plan of treatment consists in the ease and rapidity with which it can be performed. Having exposed the cervix with an ordinary speculum, you make two or three punctures rapidly, and then allow the requisite quantity of blood to flow through the speculum, on withdrawing which, the bleeding, unless the part be very vascular, generally ceases: the operation seldom causes pain, if it does, it subsides in a few minutes. You can practice this treatment with equal facility in the wards of the hospital, in the extern department, in your own study, or at the houses of your patients.

Fig. 12.

You have seen how extensively I have carried out this system of local depletion, and how often considerable relief has followed its use. Of course, it is not invariably successful. I have found it productive of benefit even in cases of chronic inflammation of the cervix although the induration then so constantly present, often prevents our obtaining a sufficient quantity of blood.

My rule then, in nearly all cases of inflammation of the cervix uteri, is, first to relieve the congestion by puncturing the part. I only omit this when menorrhagia depending on a granular condition of the cervix is present, for when this exists, depletion is in general unnecessary and appears sometimes to be injurious. Your object, in that case, should be to check at once the weakening discharge. This is best effected by applying freely to the diseased surface a saturated solution of the perchloride of iron in glycerine, which is much less irritating than either the tincture or the liquor, and is generally sufficient, if applied freely, to check temporarily the bleeding. To apply it, you should always expose the cervix with one of Fergusson's glass speculums, and make your applications through it. However, this proceeding is but palliative, and, as in all the severe cases the membrane lining the interior of the cervix is implicated in the disease, it is essential to dilate its canal throughout its entire extent, so that you may be able to treat every portion of the unhealthy surface. With this intention, I introduce one or two lengths of the compressed sea-tangle, taking care that they pass through the os internum; on withdrawing these my usual treatment has been to apply the strong nitric acid, freely, to the whole interior of the cervical canal, in the manner recommended in a previous lecture. This was the course adopted in the case of the woman S. B., of whom we have been speaking. I confined her to bed for three or four days subsequently, and then treated the still ulcerated surface, by the application of a solution of tannic acid in glycerine of the strength of ten grains to the ounce. I strongly recommend the use of this application in cases of ulceration and inflammation of the cervix, after local depletion has been practised; it is especially useful if vaginitis be present. I saturate a pledget of cotton in the glycerine, pouring about

half a drachm of it into the palm of my hand, and soak it up with the cotton, I repeat this process several times till the cotton is thoroughly saturated, and then, attaching a piece of string to facilitate its removal, introduce it up to the os uteri through the speculum and leave it there for twenty-four hours; the patient can withdraw it herself by means of the string. This treatment is often productive of great benefit; the tannin acts as an astringent, while the glycerine produces a copious watery discharge. The result of this combined action is, that the surface of the cervix, on the withdrawal of the cotton, looks paler and altogether much cleaner and healthier. If much irritation exist in the vagina, I omit the tannin and use the plain glycerine, as it relieves the vaginal congestion more effectually than when it contains an astringent. It was from Dr. Marion Sims' excellent work on "Uterine Surgery" that I learnt the great value of glycerine in the treatment of uterine disease, and I daily appreciate it more. Remember, however, the glycerine must be very freely used; I commonly employ an ounce for a single application. The quantity which even a small pledget of cotton will absorb is surprisingly large.

If the nitric acid be once freely applied to the whole length of the cervical canal, and that you subsequently dress the ulcerated surface with the glycerine of tannin, you will in many instances effect a cure in the course of a few weeks. We had an example of this in the patient alluded to. If the surface be indolent, it may be necessary to apply to it, occasionally, a solution of nitrate of silver, of the strength of from thirty to forty grains to the ounce. In cases of less severity, I sometimes use, instead of the nitric acid, the zinc points introduced into practice by Dr. Braxton Hicks, or, if the nitric acid has failed to effect a cure, I introduce them subsequently; they are often productive of great benefit, specially

when no induration exists. They cause, however, a good deal of pain and considerable local irritation.

But, in the case of G. P., one of the patients I am to-day specially directing your attention to, I have adopted a different treatment. In her you may remember there existed great tumefaction of the cervix, and extreme vascularity and congestion of the mucous membrane covering its vaginal surface. With the view of relieving this condition, I punctured the cervix on three occasions and abstracted a good deal of blood; but, although relief from pain always followed this proceeding, very little improvement took place in the condition of the part; I therefore, a fortnight ago, decided on dilating the canal of the cervix, and accordingly introduced into the uterus two pieces of sea-tangle; on removing them I applied, instead of the nitric acid, a solution lately introduced in imitation of the styptic colloid of Dr. B. W. Richardson: it is made by dissolving ten grains of benzoic acid and fifteen grains of tannic acid in four drachms of collodion, to this should be added, in the treatment of uterine disease, twenty-five grains of carbolic acid. This is both a mild caustic and a powerful astringent, it forms a coating too over the congested and ulcerated surface, on which, I think, it exerts a beneficial influence by its contractile power. The preparation is much more suitable for the treatment of cases in which the cervix is soft and spongy, than of those in which induration exists. In the present instance it has proved very successful. I am not aware of the styptic colloid having been used in Great Britain in the treatment of ulcerations of the cervix, but a case is recorded in the "Obstetrical Transactions," Vol. XI., in which it was used by Dr. Wynne, of Guatemala, with much success.

From time to time you will meet with cases, in which the various modes of treatment I have recommended, including

the repeated application of the fuming nitric acid, will fail to effect a cure; this is likely to occur when the entire substance of the cervix is implicated; when both the mucous membrane lining its canal and that covering its vaginal aspect, being in an unhealthy condition, are covered with vascular papillæ, and the cervix itself, at the same time, greatly engorged, and frequently, in my opinion, also œdematous. Menorrhagia was present in all the cases of this form of uterine disease which have come under my observation; all of them too, were of considerable standing.

Take as an example the case of Mrs. ——, who has only been recently discharged from hospital; her illness commenced three and a half years ago, and appears to have had its origin in a well-marked attack of an inflammatory character, for she suffered at the time from acute pain over the left ovary, which only yielded to the application of leeches and other antiphlogistic treatment. Latterly, she experienced much pain before each menstrual period, while the flow became very profuse and lasted for seven or eight days. The uterus proved on examination to be considerably enlarged, and was also ante-flected; the cervix was elongated, tumefied and engorged; its vaginal surface was covered with large, highly vascular granulations, from which the hæmorrhage evidently proceeded; a similar condition existed in the cervical canal; I therefore dilated it, and applied the strong nitric acid, freely, to the diseased surface, but I was disappointed in the result. The next menstrual period was so profuse, that I had to plug the vagina, and, though I applied the nitric acid repeatedly, she improved very slowly indeed. I therefore determined to have recourse to potassa fusa, and to destroy with it, if possible, the whole of the diseased surface. Whenever this caustic is used, it should be applied through a glass speculum, and rubbed freely against the part, till you

are satisfied that the tissues have been destroyed to a considerable depth; a pledget of cotton, saturated in vinegar, should have been previously inserted between the lower lip of the os uteri and the edge of the speculum, to neutralize any of the potash which may escape, and which would otherwise irritate the vagina; that canal should also, as a further precaution, be washed out with vinegar immediately after the application. In this case I cauterized not only the exposed surface of the cervix in the manner described, but I also passed the stick of caustic potash to the depth of at least half an inch into the cervical canal; this proceeding did not cause any pain. The only local treatment I subsequently adopted, was, the placing in the vagina daily, of pledgets of cotton saturated with glycerine. Of course I confined the patient to bed for several days. The slough was thrown off in less than a week. The surface thus exposed presented a very healthy appearance and healed up rapidly, so that at the expiration of about three weeks I was able to allow the patient to return home.

In these severe cases, the total destruction of the diseased surface by caustic potash, is by far the most effectual means at your disposal; and if care be taken to limit the application to the cervix, and if the vagina be washed out freely immediately afterwards with vinegar, no injury to that canal nor any unpleasant consequences need be feared.

The milder cases of ulceration of the cervix will generally yield to the use of nitrate of silver; tincture of iodine sometimes seems to agree, but I do not rely on it. I have however noticed that its use seems sometimes to allay the backache from which the subjects of uterine diseases suffer so much. I have also used a saturated solution of carbolic acid in glycerine, and have tried it as a substitute for nitric acid as an application to the interior of the uterus, but it has not realised my expectations.

In concluding my remarks on the treatment of the more acute forms of cervical inflammation, especially when, as nearly always is the case, the disease implicates the membrane lining its canal, I must repeat that you have to deal with a most troublesome, and often an intractable affection, and one which can only be cured by active and energetic measures.

I stated just now, that I had seen that peculiar form of abdominal inflammation known as *pelvic cellulitis* occur in a patient suffering from inflammation of the cervix uteri. In one case it evidently followed on the application of the tincture of the perchloride of iron, which had been used with the view of checking severe menorrhagia, but in many instances the exciting cause cannot be clearly traced. As we have at present a case of this affection in the house, and as it sometimes occurs in connection with chronic disease of the uterus, I shall take the opportunity of calling your attention to the subject. This patient was admitted in a very anæmic condition, having lost a great quantity of blood. She stated that she had aborted three weeks previously, and on examining her, it was evident that the hæmorrhage was kept up by the retention of a portion of the placenta. I plugged the vagina, and directed her to have thirty drops of the liquor ergotæ and three of the solution of strychnia every third hour. This produced sharp uterine action, and on withdrawing the plug, after the lapse of twelve hours, the placenta was found in the vagina, and the hæmorrhage immediately ceased. Three days subsequently she had a rigor, and complained of sharp pain in the region of the uterus; pressure over the abdomen, however, caused but little distress. Vomiting soon after set in, and for the next forty-eight hours was incessant; indeed this distressing symptom did not entirely cease for five days. The pulse was very quick, as it always is in these cases. On making a vaginal examination immediately after the rigor

had occurred, nothing could be detected, but the vagina felt hot, and she complained of the pressure of the finger causing pain. On repeating the examination, after the lapse of twenty-four hours, the uterus was found to be immoveable, being fixed by a firm, hard swelling, that extended all round it. This, in the posterior *cul de sac*, assumed the form of a well-defined tumour, which pressed against the rectum, and thus explained a symptom she now complained of, namely, a constant desire to defecate; all her attempts, however, to do so proved useless. Now, what has occurred here is, that inflammation has attacked the cellular tissue situated around the uterus and within the folds of the peritoneum, which has resulted in the rapid effusion of serum.

In this case there are three points worthy of your special attention; namely, the hardness of the swelling as felt through the vagina; the pressure on the rectum which this swelling caused; and the distressing vomiting from which she suffered. The hardness is due to the infiltration of fluid into the cellular tissue surrounding the uterus. This effusion may be circumscribed, so as to form a well-defined tumour, or be general, as in the present case; its hardness, the rapidity of its formation, and the little pain which pressure causes being its distinctive features.

The pressure which the swelling exercises on the rectum often causes much distress, and may, by totally obstructing the bowels, even prove fatal. Let me impress on you the necessity in such cases of avoiding the exhibition of purgatives. The obstruction is mechanical, and cannot be overcome by exciting the peristaltic action of the bowels. On the contrary, it is your duty to quiet that action by the exhibition of opiates. This was the treatment adopted in the case at present in the house. She took half a grain of opium

every third hour, while injections of tepid water were thrown up twice a day into the rectum, with the view of aiding the descent of any fæcal matter which might be impacted in the lower part of the bowels. The opium, however, had no effect in checking the distressing vomiting, I therefore tried the subcutaneous injection of morphia, and with great success; the injection of one-sixth of a grain always quieted her stomach for two or three hours. Now this is a fact worth bearing in mind. Vomiting frequently follows the subcutaneous injection of morphia, but I have several times seen it check reflex irritation of the stomach depending on uterine disease. Vomiting is a frequent, I was almost going to say, invariable, accompaniment of pelvic cellulitis. This, I believe, is usually due to the endometritis, which generally co-exists. In the case at present in hospital, the treatment adopted, in addition to the subcutaneous injection of morphia, was the keeping the abdomen constantly covered with warm linseed meal poultices, and the internal exhibition of opium and of hydrocyanic acid. Food could not for several days be retained on the stomach. She had milk and lime-water, and milk and soda water in small quantities, frequently, and also beef-tea; the latter was also administered *per rectum*. She is now slowly recovering.

The tendency of pelvic cellulitis is to recovery; it is always a tedious disease, but by carefully sustaining the patient's strength with unstimulating nourishment, and by the avoidance of lowering treatment, such as the exhibition of mercury, purgatives, &c., the patient generally recovers. In the great majority of cases resolution takes place, the swelling being slowly absorbed, but sometimes it terminates in the formation of an abscess which may discharge into the rectum, into the bladder, or open externally. The chief danger con-

sists in the risk which always exists, of the inflammation extending to the peritoneum. A little care will enable you to discriminate between peritonitis and an attack of cellulitis; the pain on pressure is in the latter comparatively trifling, and in the former severe, and in it vomiting is an early and prominent symptom; but a vaginal examination always sets the question at rest, by detecting the existence of a firm, hard swelling. The patient at present in the house is suffering from an acute attack, but sometimes the disease creeps on insidiously and its existence may for a long time escape notice, a careful vaginal examination should, therefore, in all cases be instituted.

There is one affection, of rare occurrence, however, with which pelvic cellulitis may be confounded; I allude to those cases in which an effusion of blood takes place into the pelvic cavity, to this affection the term of *pelvic hæmatocele* is applied, the most prominent symptoms of which are the sudden appearance of a tumour in the pelvis, more frequently in one or the other iliac regions, or behind the uterus. This at first is soft, but in time becomes firm and even hard; pain is generally complained of, and there is always a good deal of febrile action present, sometimes there are symptoms of collapse, and generally those of nervous shock. The source from which the blood is discharged is generally obscure, often it is a mere exudation. Dr. Barnes is of opinion, and I am inclined to agree with him, that this affection may result as a consequence of mechanical dysmenorrhœa, and that in such cases an oozing of blood from the abdominal ends of the Fallopian tubes, and even from the surface of the congested ovaries occurs. "Symptoms of shock announce the out-pouring of blood into the peritoneum, or into the cellular tissue of the broad ligaments; intense pain in the abdomen and pelvis announce the reaction and peritonitis. In almost all cases,

a simultaneous escape of blood takes place externally" (Obstetric Transactions, Vol. VII., p. 125). On some future occasion I shall again refer to this subject, at present I only allude to it, to warn you against confounding the swelling following on the escape of blood, with that due to the occurrence of pelvic cellulitis.

LECTURE XII.

Chronic Inflammation of the Cervix Uteri—Induration of Cervix—Treatment of, by Potassa fusa; by Local Blood-letting—Endo-metritis—Endo-cervicitis.

In my last lecture, I gave you an outline of the natural history and treatment of the severer and more acute forms of inflammation of the cervix terminating in congestion and thickening of the mucous membrane lining its canal, and of the follicles with which that membrane is studded, while its vaginal portion denuded of its epithelial coat is covered with numerous vascular papillæ; these little bodies, projecting as they do from a rough and abraded surface, and secreting a copious muco-purulent discharge, have been mistaken for granulations. The term ulceration is generally applied to the condition I have described; a term, the correctness of which is very doubtful, there being no excavation and but little loss of substance present, while the discharge is merely the ordinary product of inflammation of a mucous membrane.

I shall now proceed to direct your attention to those still more common cases of, what we must call, chronic inflammation of the cervix. In it you have considerable thickening and induration of the whole substance of the cervix, which feels hard, and frequently is very sensitive to the touch. A vaginal examination or the introduction of a speculum causes considerable pain, while sexual intercourse may for the same reason be unbearable. We frequently find this condition associated with flexions of the uterus; when these occur, the

fundus generally participates in the sensitive condition of the cervix.

On exposing the cervix with a speculum, its surface will frequently be found to present its normal appearance. If any ulceration exist, it will generally be confined to a narrow rim surrounding the os uteri, which is frequently patulous, and, in women who have borne many children, sometimes nodulated and irregular, this condition being apparently due to the slight lacerations which may have taken place during labour. In addition, you not unfrequently have the glairy discharge pathognomonic of disease of the cervical canal issuing from the lips of the os uteri. These cases of chronic inflammation and induration of the cervix, with little or no abrasion of the mucous membrane, are met with constantly, especially among women of the lower class, who leave the recumbent posture and engage in their ordinary avocations a few days subsequent to delivery or abortion. But it is far from being restricted to them; you will meet with numerous examples of it in the upper classes also.

I do not think that there is any affection more distressing than chronic inflammation of the cervix. The pain in the back, the ovarian pain, and the pain felt along the inside of the thigh, is often even more severe than that experienced in the acute form. The unfortunate patient never seems to lose it even for a day, while it is sure to become aggravated by fatigue, by exposure to cold, and by the approach of each menstrual period. In addition, irritation of the bladder, manifested by frequent desire to micturate, often becomes a very troublesome and distressing symptom. This symptom, as pointed out by Dr. Churchill, is one common, no doubt, to other affections of the uterus, but, I think I have observed it more frequently in conjunction with chronic inflammation of the cervix than with any other; unless indeed, it be where

ante-flexion of the organ exist. In fine, though not likely in itself to shorten life, chronic inflammation of the uterus often renders the patient little better than a confirmed invalid, and makes life itself a burthen.

The constant distress, and even actual pain, which patients suffer when labouring under chronic inflammation of the cervix, frequently gives rise to the suspicion of the existence of cancer; but, the mobility of the uterus, the absence of hæmorrhage, and of a fœtid discharge, will generally enable you to assure your patient, that, though likely to be for a long time a sufferer, she is not labouring under malignant disease. The induration too, resulting from chronic inflammation of the cervix is very different from that caused by the deposit of cancerous matter, the surface of the former being smooth, of the latter nearly always nodulated, and frequently presenting at one point a sharp well-defined edge, indicative of the existence of cancerous ulceration. I have known the irregular feel which the os uteri sometimes communicates to the finger, when induration has occurred in a woman who has borne many children, to be mistaken for that due to the existence of malignant disease; but, these irregular projections, surrounding as they do the os uteri, are very different in feel from those produced by cancer. The induration which takes place in cases of chronic inflammation of the cervix, is, according to Dr. Bennet, due to the effusion of plastic-lymph into the tissue of the cervix.

I have already noticed that the occurrence of extensive ulceration of the vaginal surface of the cervix is comparatively rare in these cases; it is not easy to explain this circumstance. I am, however, inclined to think that the access of the disease is so very slow, that, while lymph is gradually deposited in the tissues of the cervix the mucous membrane escapes being implicated; it is different, however,

with respect to the lining membrane of the cervical canal, which is nearly invariably engaged to a greater or less degree ; it is not vascular and engorged as in the more acute forms, but thickened and hypertrophied. In fact, whilst in the acute form you have a soft tumefied cervix, its surface denuded of epithelium and secreting a copious muco-purulent discharge, the cervical canal participating in the disease, and menstruation, at the same time, being nearly always profuse, you have in the chronic form, a hard indurated cervix frequently covered with an apparently healthy mucous membrane, while a copious glairy discharge, indicative of chronic inflammation of its lining membrane, is seen to issue from the cervical canal—menstruation being almost invariably diminished in quantity. These cases have long been the opprobrium of obstetric physicians, while their extreme frequency gives to them an importance which the direct effects they exercise on the duration of life does not warrant.

The modes of treatment suggested for the cure of this affection have been very numerous. Nitrate of silver, nitric acid, the nitrate of mercury, and iodine have been all repeatedly tried with the like result, and that generally is—failure. Equally inefficacious, as far as the local disease is concerned, but probably more injurious to the general health, have been the long courses of the iodide of potassium, and of the bichloride of mercury to which such patients have been subjected. In my opinion medicines are nearly useless in this disease.

The failure of all ordinary means, induced the late Sir James Simpson to try what good could be effected by the employment of potassa fusa applied directly to the indurated cervix, with the view, "partly of destroying the indurated tissues by direct decomposition, and partly to soften down the remainder by new inflammatory action." He found it "far more

manageable, speedy, and certain than any other method." I have myself used the *potassa fusa* with success, and I have never seen any unpleasant consequences resulting from its application. I do not however rely on it in cases of chronic inflammation of the cervix; still I do not hesitate to use it, should the means I usually employ fail to effect good results.

I have already (page 164) explained to you the method in which this powerful caustic should be applied, and the precautions you should adopt to prevent its injuring the vagina, and therefore need not repeat them here. I may, however, add that when much induration exists, one application will seldom be sufficient, and that it may be necessary to apply the caustic, a second or even a third time, after the lapse of two or three weeks.

Dr. Greenhalgh, of St. Bartholomew's Hospital, treats such cases as these I now speak of, by the application of iodized cotton to the cervix. The cotton is first uniformly saturated with glycerine, a strong solution of iodine is then added and equally diffused under pressure in a closed vessel, twenty per cent. of iodine may thus be combined with the cotton.* The size, or weight, of the pledget of cotton to be used, is therefore determined by the quantity of iodine required: a pledget of the requisite size is placed in contact with the cervix, and outside this, a roll of cotton saturated with glycerine; strings are attached to these to enable the patient to remove them, when necessary. The iodized cotton doubtless exerts a marked influence on the cervix, and many cases derive considerable benefit from its use, but I find on the other hand, that not a few patients are unable to tolerate the strong taste

* The iodized cotton can be had of Messrs. Savory and Moore, 143 New Bond Street, London; or of Graham & Co., 30 Westmoreland Street, Dublin.

of iodine which in a very few minutes, is perceived in the mouth, and which remains for a long time. The application also in some patients, produces considerable irritation of the vagina, though in the great majority of cases the glycerine prevents this occurring.

I find that much relief can be obtained by repeatedly puncturing the cervix and abstracting by this means blood locally. Let me call your attention to some of the cases which have recently been treated in this manner in our extern department. M. W., five years married has never been pregnant. For two years past she has suffered constantly from pain over the left ovary, from pain along the edge of the false ribs on that side and from back-ache, always more severely before, and during, each menstrual period; the flow has greatly diminished in quantity, and is still progressively lessening; the cervix was elongated, indurated, thickened, and very tender to the touch; copious cervical catarrh was also present. The diagnosis was obviously, chronic inflammation and induration of the cervix uteri with inflammatory hypertrophy of the mucous membrane lining the cervical canal. The cervix was punctured, and the operation repeated at intervals of a week; the pain steadily decreased in severity, and after the lapse of six weeks she had obtained such relief that she considered herself to be perfectly well; no other treatment was adopted. This patient was not cured, for, like most persons of her class, she could not be induced to continue her attendance when once the urgent symptoms were relieved.

Here is another example in which the same treatment was adopted:—Mrs. W., æt. forty, had one child nineteen years ago, never pregnant since. Catamenia regular till seven months ago, since then they have appeared but twice, the last time being three months ago. Complained of back-ache and pain in right side, shooting down into hip; she also

suffered from profuse leucorrhœa. Cervix in a state exactly similar with that which I pointed out to you as existing in the last case. She first presented herself on the 22nd of April. On that day I punctured the cervix which bled freely. May 2nd.—Again extracted blood by puncturing cervix; *states that she menstruated two days after last visit.* May 13th.—Much freer from pain; cervix again punctured; this was repeated weekly, till the 20th June.—On that day, I find the following entry in my note-book:—Is much easier; has menstruated again without pain. June 27th.—Quite free from pain; cervix still indurated but no longer tender to the touch. Here was a woman in whom, previous to the adoption of this treatment, menstruation was irregular, scanty and painful, while she suffered constantly from distressing pain both in the back and side. You have seen the benefit she has derived from it.

But I should only weary you by detailing the particulars of the numerous cases I have treated in this manner. Most of you have seen them and are capable of judging of the effects for yourselves; I cannot, however, help alluding to that of one woman, whose sufferings were extreme.

J. D., æt. thirty, married seven years, has never been pregnant; for the past year has suffered from constant and severe pain in the left groin, also over left ovary, and above the pubes. Bladder extremely irritable, micturition painful, catamenia very scanty and irregular, sometimes not appearing at all for several months; uterus low in pelvis and very tender to the touch, fundus retroflected. Sexual intercourse has become so painful that she cannot now permit it at all. On the occasion of her first visit, on the 12th of February, I ordered her to have a saline purgative, and introduced a small-sized Hodge's pessary, hoping that the support it would give the retroflected womb might afford some relief. In this

I was disappointed; the organ was too tender to admit of the instrument being worn for any length of time, and I had to remove it after the lapse of three days. For the four following months, she presented herself at least once a week in the out-patients' room, but her condition did not improve, indeed she became worse, and often she could not straighten herself so great was the pain she suffered. During this period I tried every possible form of medical treatment without effect. On the 20th June I decided on puncturing the cervix, and from that day she steadily improved. I repeated the operation at intervals of five or six days. After a few weeks she was so much easier that she only attended about once a month. On each occasion the treatment was repeated with marked benefit. Menstruation, though scanty, appeared at regular intervals, and she was so much better as to be able to resume her regular occupation, that of working in a market-garden. She presented herself the other day, after an interval of three months. She then stated that the menstrual flow now appears regularly, that she suffers but little pain, and can permit sexual intercourse. The uterus is still retroflected and will, I believe, always remain so, but it is not painful to the touch. It is well worth your while bearing this case in mind. Previous to my practising local depletion, I had, for four months, tried every other means I could think of, without effecting the least good. You all have seen the benefit resulting from that finally adopted. This case is instructive too in another point of view, as proving that the patient's sufferings were due to the state of chronic inflammation which was present, and not to the retroflexion.

I have hitherto spoken only of inflammation of the cervix uteri and of the lining membrane of its canal, but the fundus, though more rarely affected, may participate in the disease, and cases of chronic endo-metritis are by no means uncommon.

I wish you to understand, that when I speak of endo-metritis I refer to inflammation of the interior of the body of the uterus only, that is of the part lying above the os internum. This term is used by some, I think, erroneously, to include inflammation of the canal of the cervix also. Inflammation of this latter portion should be spoken of as endo-cervicitis, a term made use of by Dr. Marion Sims, and which I prefer as being more definite than any other.

Endo-metritis may occur in conjunction with, or be independent of, endo-cervicitis, the former being the most common. In addition to the symptoms that are almost invariably associated with all the forms of uterine disease, we have certain others which, I think, are specially referable to the inflammation of the body of the uterus. The pain is much more liable to be paroxysmal; the patient will obtain ease sometimes for days at a time, and then her sufferings will return with increased severity, the approach of menstruation being invariably attended with pain, while the appearance of the flow, which is generally profuse, often brings temporary relief. In fact, endo-metritis is one of the causes of painful menstruation, as was pointed out in a former lecture. When endo-metritis is present, I have also remarked that pain of an unusually severe character is felt along the edge of the false ribs. I do not remember to have seen endo-metritis in an unmarried woman, while, on the other hand, cervical catarrh is occasionally seen even in virgins. So much for the general symptoms. The local ones are also sufficiently pronounced; in endo-metritis the fundus is tender to the touch, and frequently retro- or ante-flected, and, when this is the case, defecation often painful, irritability of the bladder also being generally present; the discharge too is usually sanious, while the introduction of the uterine sound into the cavity of the uterus invariably gives pain, which, if its point touch the

fundus, becomes very severe. Dr. Routh, in an elaborate and able paper, has endeavoured to prove, that the portion of the fundus lying between the Fallopian tubes is the seat of a special inflammation which gives rise to symptoms distinct from those met with when other parts of the body are affected. But, while admitting that this portion of the uterus is highly sensitive, I am hardly prepared to allow that it can be the seat of disease, the adjacent portion of the mucous lining of the uterus remaining normal.

Whenever endo-metritis exists for any considerable length of time, the mucous membrane lining the cavity of the uterus is thickened and liable to become covered with numerous elevations, sometimes minute, sometimes so large as to be distinctly felt by the finger introduced through the cervix. The occurrence of this condition I have already dwelt on when speaking of menorrhagia, to which it nearly invariably gives origin. We have recently had in our ward a well-marked example of this, the particulars of which I have detailed in a former lecture (Lecture V.) The patient suffered from such irritability of the bladder, that for years past she had been obliged, even during the night, to micturate at least every hour. This was her most distressing symptom, but, of even more importance, was the menorrhagia, which had gone on increasing in severity for ten years, and had rendered her perfectly exsanguine. In this case I dilated the cervix, passed my finger up to the fundus and found the lining membrane of the cavity to be in a roughened, granular condition. I cauterised the whole interior of the uterus freely with the strong nitric acid, and had the satisfaction of seeing her completely relieved from the vesical irritation, and of discharging her, after the lapse of a few weeks, perfectly cured also of the menorrhagia from which she had so long suffered.

In cases then of endo-metritis in which menorrhagia is present, I recommend you to dilate the cervix and to cauterise the interior of the uterus with nitric acid; but if menstruation be diminished, I advise you to rely on local depletion, on rest, and on the injection into the cavity of uterus of a few drops, once or twice a week, of pure glycerine; but, if you do the latter, you must first take care that the cervical canal is quite patulous, for if the fluid have not a free exit, you may bring on, as happened in my own practice, a severe attack of uterine colic. I generally inject the glycerine through a *porte caustique*, passing the point of the instrument through the os internum, and then force a few drops of the glycerine through it by means of a small syringe.

But you may, and frequently have, endo-metritis associated with endo-cervicitis, and, as the latter is the most obvious, may possibly refer all the symptoms to it, and overlook the existence of the former. Consequently you may be surprised to find, when you have cured the cervical affection, that the patient's sufferings are not alleviated. Dr. Marion Sims points this out in his work on "Uterine Surgery," and I am able to confirm the accuracy of his observations.

I have recently had under my care an interesting example of endo-metritis occurring in conjunction with endo-cervicitis. In this patient the cervix was slightly ante-flected, and the fundus, as well as the neck, very tender to the touch. The discharge, pathognomonic of endo-cervical inflammation, was present, menstruation was profuse, and its advent attended with much suffering. She also complained of pain along the edge of the false ribs on the left side. The introduction of the uterine sound caused her much suffering, but this was not experienced till the point of the instrument reached the os internum. I commenced the treatment by puncturing the cervix, and thereby relieved the well-marked congestion

which existed. I then dilated the cervical canal, introducing for this purpose two pieces of sea-tangle, and subsequently cauterised the whole interior of the uterus with the fuming nitric acid. Afterwards I treated her by applying pledgets of cotton soaked in glycerine of tannic acid to the cervix. Under this treatment she rapidly improved, the endo-cervical inflammation disappeared, but the fundus however remained tender to the touch, proving that the endo-metritis was not yet perfectly cured. I now injected a few drops of glycerine two or three times into the cavity, and finally, immediately before the menstrual period, again practised local depletion by puncturing the cervix. The last two menstrual periods have been perfectly free from pain, the flow is normal in quantity, and the infra-mammary pain quite gone. Unfortunately these cases have a tendency to relapse, and in young women such as this patient, the recurrence of pregnancy, or even less marked causes, may rekindle all the bad symptoms.

Acute endo-metritis, excepting when it occurs after abortion or delivery at the full term, is not common. When it does occur it is liable to be mistaken for peritonitis, to which however it presents a marked contrast in two respects—namely, that the pain is nearly always paroxysmal in character, and is generally accompanied by a sanguineous discharge.

The following case presents a good illustration of this affection :—A lady who had suffered from post-partum hæmorrhage, and in whom involution of the uterus had never been perfectly accomplished, having been exposed to cold some months subsequent to delivery, was attacked with severe pain in the region of the uterus. There was also well-marked tenderness on pressure over the pubes. This attack took place just before the occurrence of a menstrual period, but the flow, instead of being checked, appeared in increased

quantities and continued persistently. This lady resided in a remote part of the country, and I did not see her till after the lapse of about ten days. I found her in great agony, but ascertained that this was not incessant, that she had intervals of nearly perfect freedom from suffering, lasting sometimes for several hours, then the pain would return with great violence. Pressure over the uterus was always productive of distress, and increased the pain, but elsewhere the abdomen was not tender to the touch. The pulse was rapid, but not of the character which accompanies peritonitis; there was no vomiting, while a continuous though not copious hæmorrhagic discharge was present. On making a vaginal examination the uterus proved to be tender to the touch; it was evidently enlarged, and on introducing the uterine sound it passed without difficulty to the depth of five inches. I had no hesitation in pronouncing the case to be one of metritis. As already mentioned the pain was of a well-marked paroxysmal character; the tenderness on pressure over the uterus was also present, but, if the abdomen were not touched, she would have long intervals of nearly perfect freedom from suffering; then, however, it would come on and last for hours without intermission, a characteristic of metritic inflammation, to which Dr. West especially alludes in his valuable work on "Diseases of Women." He states that "the tenderness of the uterus in these cases always led him to abstain from measuring its depth by means of the sound." In the case I have just narrated however its introduction caused no pain. The distance at which this lady resided from town precluded me seeing her again till she was able to travel, which was not for four weeks. On examining her on her arrival in Dublin, I was agreeably surprised to find that the uterus, although not of its normal size, was much smaller than I

could have anticipated it would be, the cavity measuring about three inches in depth.

In this case I enjoined perfect rest, applied poultices over the abdomen and administered opiates. Leeches could not be obtained, or I should have applied three or four. Mercury in such a case as this would have been, in my opinion, absolutely injurious.

LECTURE XIII.

Displacements of the Uterus—Retro-flexion—Causes, Symptoms, and Treatment of—Hodge's Pessary—Value of Local Blood-letting—Ante-flexion—Prolapsus Uteri.

The healthy, unimpregnated uterus is an organ of great mobility. Its connection with the pelvic walls by means of the broad ligaments, which are merely folds of the peritoneum, is so very lax, that it can without difficulty be inclined either anteriorly or posteriorly; they no doubt oppose a certain amount of resistance to its lateral motions, but very little to its movements in other directions, while the round ligaments, which do materially aid in supporting it, are yet incapable of offering any effectual opposition to the descent, much less to inclinations, of the womb in either an anterior or posterior direction. In young women who have not borne children, the muscular structure of the vagina, forming, as it does, a firm tube into which the cervix uteri is inserted, aids materially in supporting the womb; but in women in whom that canal becomes relaxed from the effects of frequent parturition or of disease, local or constitutional, the support afforded by it is in a great measure wanting, and the organ may sink directly down: the tendency to such a displacement becomes greatly aggravated should the womb, as is frequently the case, be from any cause enlarged and heavy. But, common as prolapse of the uterus is, the other displacements to which the organ is liable are still more so. Hardly a day passes in which we do not meet with examples among the ex-

tern patients of flexions of the womb either backwards or forwards. I shall call your attention to these first, and afterwards return to the consideration of prolapse.

The womb, then, may be bent on itself either in a posterior or anterior direction, and to these flexions the terms retroflexion and ante-flexion are respectively applied. Now it is of importance that you should clearly understand what is meant by these terms. Some writers, and among them the late Sir J. Simpson, used the words retroversion and retroflexion as synonymous, but in reality they indicate two very different affections, for retroversion signifies a turning back of the entire uterus, and is applicable to that change of position to which the gravid womb is liable, when the fundus lies in the sacral hollow, the os being forced up behind the pubes, a condition very rarely seen unconnected with pregnancy; whereas by retroflexion, on the other hand, is to be understood a bending back of the fundus alone, the os remaining very nearly in its natural position; while in cases of anteflexion, the fundus is in like manner bent forwards.

Retroflexion, which is by far the most common displacement the uterus is liable to, may be met with at nearly every period of life, from puberty onwards. It is however rare in youth and in advanced age, the great majority of cases occurring during that period of life in which the uterine system is in the state of its greatest activity, namely, between the ages of twenty and forty years. It is besides an affection, the existence of which is more liable to be overlooked than any other form of uterine disease; this being due rather to the fact, that the symptoms to which it gives rise have often but little apparent reference to the uterus, than to any difficulty in detecting it when once our suspicions are aroused.

When we consider the position of the uterus in the pelvis

with the bladder, an organ capable of such immense distension, placed in its immediate front and constantly exercising a pressure backwards, and when we remember that many women from mere habit, or from motives of delicacy, oftentimes pass many hours without emptying that viscus, we can readily understand the frequency of this displacement as compared with any other to which the uterus is liable. But, though the distended bladder may thus be the agent in directing the uterus backwards it is but a secondary cause, for the uterus itself must be in an abnormal condition; otherwise it would regain its proper position whenever the bladder became flaccid. Retroflexion is generally, in my opinion, produced gradually, and as the result of affections which increase the bulk and weight of the uterus, and more especially of its fundus. It is not however necessary that the increase should be confined to the fundus, though, if that be the case, the danger of retroflexion occurring is much increased; for if the bulk of the entire uterus be augmented this may still take place, because not only is there a force acting from before, directing the fundus downwards and backwards, but also because there is no resistance from behind to counteract that tendency.

We however frequently meet with cases in which, while retroflexion obviously exists, the uterus certainly is not enlarged or increased in weight; but this is capable of explanation if we bear in mind that, when the uterus is bent on itself at an angle, the circulation must be seriously interfered with. Congestion doubtless at first occurs, but subsequently, if the case be neglected, atrophy of the organ may result. In time the original cause of the affection may cease to exist; but the uterus does not necessarily on that account regain its normal position, for not only may the fundus be bound down by adhesions formed on its peritoneal surface, but also a pro-

cess of absorption and consequent thinning, may take place at the point of flexion, especially on the lower or concave surface, so that even when no adhesions exist, permanent restoration of the uterus to its normal position is impossible; this fact enables us to understand the unsatisfactory results which often follow treatment adopted for the cure of cases of old standing.

The causes producing the condition likely to result in retroflexion may be reduced to three classes—namely—

1st. Congestion, frequently terminating in chronic inflammation of the uterus, and hypertrophy of that organ.

2nd. Subinvolution of the uterus, after labour or abortion.

3rd. Tumours of the uterus.

But in addition to those in which we can trace the flexion to the existence of one of the conditions here enumerated, we occasionally meet with cases, the origin of which is so obscure, as to prevent our being able to decide as to the mode of their occurrence.

Dr. Barnes, in a recently published lecture on this subject, suggests that in many, the flexion may have been congenital. An opinion which I think is probably correct.

I believe congestion of the uterus to be a common cause of retroflexion, and one frequently overlooked. It is met with in two very different classes of females—namely, those who lead a very active life; and again, in those of weakly constitution and sedentary habits, such as needle-women and teachers. Thus young women of active habits, who from necessity or for pleasure, walk, ride, or garden much, or who follow employments or amusements necessitating much standing, will sometimes continue to pursue these duties or amusements during the catamenial period; the result is that the organ remains congested for an undue length of time, and a condition favourable to chronic inflammation is produced.

The following case illustrates this form of the disease :—

M. F., æt. twenty-five, unmarried, has always lived a very active life, and, till within a comparatively recent period, enjoyed excellent health. About three years ago having been compelled to undertake the superintendence of a large farm, she underwent great fatigue, generally spending from eight to twelve hours each day in the open air, either on foot or on horseback, and never relaxing her exertions even during her menstrual periods. She at first suffered from a sense of fulness and weight in the lower part of the abdomen, but to these symptoms she paid no attention. At about the end of a year she, for the first time, perceived a new train of symptoms. She now experienced difficulty in passing water, and was obliged to strain in doing so. After a little time her sufferings were further increased by a difficulty experienced in defecation. The bowels were not actually constipated but their action caused great pain, and the fæces when passed were as small as those of a little child. The catamenia appeared regularly but in diminished quantities. I felt in this case, as I always do when the patient is unmarried, great reluctance to make a vaginal examination, but her sufferings were so great and treatment directed to other organs had so entirely failed to afford relief, that I deemed it absolutely necessary to ascertain the condition of the uterus, and on examining I discovered that organ to be much enlarged, tender to the touch, and completely retroflected, its fundus occupying the hollow of the sacrum and pressing against the rectum; this explained one of her symptoms—namely, the difficulty experienced in defecation, the irritation of the bladder being evidently reflex. With the view of retaining the uterus in its normal position I introduced a Hodge's pessary. The fundus was raised without difficulty, but the pessary first used proved to be too large, and caused so much pain that,

after the lapse of a few hours, it had to be removed. On a subsequent day, however, I introduced a smaller one. This answered admirably, and she experienced such relief that she was able to return home, and has since followed her ordinary occupations. In this case the retroflected uterus was in a state of chronic inflammation, and to this condition her greatest sufferings were due. In the following case, however, no inflammation was present. The uterus was simply congested, and a very different train of symptoms manifested themselves.

A schoolmistress, æt. twenty-one, had suffered for more than a year from occasional attacks of vomiting, which for the last three months had become incessant. She had been treated in various ways, but without benefit, and at the time I saw her in consultation with my colleague, Dr. Little, under whose care she had been admitted, rejected everything she swallowed. She even vomited lime water and milk, and this though only one spoonful had been given at a time and at regular intervals, no other food of any kind being allowed. In like manner she had been fed on beef-tea exclusively, a spoonful only being given at intervals of fifteen minutes. The food thus taken would be retained for a time, till some ounces had been swallowed, then the whole would be rejected. Nevertheless she had not become actually emaciated, and she only complained of debility, and pain in the pit of the stomach and in the back. The catamenia appeared at regular intervals, but in much smaller quantities than formerly. On examining the abdomen, tenderness on pressure was detected over the left ovary, and to that spot four leeches were applied. The effect was marked. The same afternoon the stomach retained some beef-tea, that being the first food retained for several weeks. The vomiting, however, did not entirely cease but still occurred once or twice a day, nearly always in the

morning. Being now satisfied that this symptom depended on some reflex irritation, we decided on making a vaginal examination, and I was somewhat surprised to find the uterus completely retroflected. The fundus was enlarged and occupied the hollow of the sacrum. It was easily raised to its normal position, and to retain it there I introduced a Hodge's pessary of small size. This was from the very first borne without inconvenience, and from the time it was introduced the vomiting entirely ceased. The catamenia subsequently appeared in much larger quantities. I removed the pessary after it had been worn for three months. Since then there has been no return of her distressing symptoms, and I understand that she is now married.

Both these patients were unmarried women, in both congestion of the uterus occurred, which in one had reached, in the other was slowly assuming, the form of chronic inflammation; when this happens the patient's sufferings are always greatly aggravated. She will tell you that in addition to pain in the back, she suffers from severe lancinating pains over the pubes, in the groin and shooting down along the course of the crural nerve. Change of posture or any motion, aggravates this pain, which sometimes becomes so severe as to render walking a matter of great difficulty.

Dr. Graily Hewitt has recently described this condition, and applied to it the term of "uterine lameness." Often too in these cases the bladder sympathises, and a constant desire to micturate wears out the patient: touching the fundus of the uterus causes pain sometimes of a very severe character. Sexual intercourse therefore becomes so painful and distressing as to be actually impossible. It is this form of the affection which most imperatively calls for our interference, for it gives rise to great distress and often lays the seeds of unhappiness in married life.

The following case exemplifies the distress which exists in cases of retroflexion when aggravated by the occurrence of chronic inflammation of the uterus. S. B., æt. twenty-eight, had been married for eight years. Not long after marriage, when in the fourth month of pregnancy, she fell down stairs and was much hurt. As the result of this accident she aborted. For a year following she continued in a miserable state, the pain in her back and in the region of the uterus being so severe that she was seldom able to leave her bed. The catamenia were scanty and irregular. She was at length induced to go to Edinburgh, and placed herself under the care of the late Sir J. Simpson. He incised the cervix uteri, and introduced a stem pessary. Severe inflammation followed and the instrument had to be removed. From this attack she recovered, and returned home feeling somewhat better, but soon relapsed into a condition even worse than before. She now experienced a distressing feeling of weight in the neighbourhood of the rectum; this was greatly increased and accompanied by severe pains at each menstrual period; these recurred regularly, the discharge however being very scanty and lasting only a few hours. At length she became a confirmed invalid. Walking caused such suffering that she dared not attempt even to cross the room. On examining her I found the uterus to be completely retroflected, the fundus, which occupied the hollow of the sacrum, being very tender to the touch. The os was gaping, freely admitting the tip of the finger, and a copious discharge of semi-purulent fluid exuded from it. I leeched the cervix on three occasions, and, when the tenderness of fundus was lessened, introduced one of Hodge's pessaries, which she wore without inconvenience. Her condition has since steadily improved. Menstruation now lasts for two or three days, and she is able to perform her usual household duties. She still continues to wear the

pessary. In this case as well as in the foregoing one, menstruation though not entirely suppressed had become very scanty. The reverse will be found to be nearly invariably present when the flexion depends on other causes.

You doubtless remember my having pointed out the fact, that not unfrequently after labour or abortion, the uterus from various causes fails to regain its natural size, and remains unduly enlarged; to this condition the term "subinvolution" is applied. When this is the case the organ is peculiarly liable to flexions, for not only is its fundus unduly heavy but the muscular fibres also are relaxed, consequently the natural rigidity of the organ is in a great degree wanting. When retroflexion occurs as a sequence of subinvolution, it gives rise to very grave symptoms, the most prominent of which nearly invariably is menorrhagia. Indeed it is frequently for the relief of this that we are consulted.

We have recently had in our wards a good example of this form of the affection. The woman was admitted suffering from menorrhagia, and from severe pain over the left ovary; she stated that three months after the date of her last confinement, menstruation came on very profusely and lasted for six weeks, and that on each subsequent period the loss had been considerable. On examination the uterus was found to be retroflected, the whole of the organ being also enlarged; but it was *not tender* to the touch, nor was sexual intercourse painful, and the introduction of the uterine sound caused no distress. You see at once how strongly this case contrasts with the ones previously detailed. Here is another, the particulars of which I have recorded in my note-book. A lady gave birth after a very difficult labour to a still-born child, about five months previous to my seeing her. Considerable hæmorrhage followed delivery, and her convalescence had

been very slow. Subsequently she suffered from profuse menstruation, had gone to the seaside and been treated by the administration of tonics, but without effect. On examining her, I found the uterus to be completely retroflected and much enlarged. The case was clearly one of subinvolution of the uterus and subsequent retroflexion. This lady did not suffer any pain. She complained of the debility consequent on the menorrhagia and of nothing else.

There is no doubt but that the presence of a tumour in the cavity of the uterus may predispose to its flexion, or again, by bulging out one wall it may simulate a flexion, although in point of fact the axis of the uterus remains unchanged. This was so in the patient whose case is illustrated by the diagram in Plate II., Lecture VI. The uterus appeared to be anteflected, but in reality the anterior wall had merely yielded to the pressure exerted by the polypus as it increased in size. In like manner fibrous tumours, if situated within the cavity, or embedded in the walls of the uterus, may bulge out one side of the organ so as to simulate a flexion, or if situated on the peritoneal surface, may possibly by their weight, draw the fundus of the uterus downwards. Care therefore is needed to discriminate between a retro- or ante-flected uterus and an extra-uterine fibroid projecting from its surface, or an intra-mural or intra-uterine tumour bulging the wall outwards. It is only by means of the uterine sound that you can clear up this point.

From the details of the cases to which I have called your attention, you will see that the symptoms they present vary much, and are very vague; still, as I shall presently notice, they present some well-marked points, common to at least all the cases falling under one of the heads under which I have classed them.

If you refer to most of the works on diseases of women, you will find the symptoms of retroflexion of the uterus stated to be "a sense of weight" in the pelvis, "pain in the back," or "shooting down the thighs," &c., symptoms which are common to nearly every form of uterine disease, and, therefore, worthless as a diagnostic mark; while, with respect to the menstrual function, no attempt is made to apply to it any definite rule. Thus Sir J. Simpson, in the first volume of his "Obstetric Works," says, that he has found the "catamenial discharge to be the most oppositely affected, occasionally in the way of menorrhagia, sometimes of dysmenorrhea." Again, Dr. Churchill says, "Menstruation may be profuse or painful, or both." I cannot but think, that this apparent contradiction in the description of symptoms, is due mainly to the want of careful discrimination between two classes of cases, depending on totally different conditions of the same organ.

Doubtless there is not any one symptom on which we can rely as indicating the existence of retroflexion of the uterus, and I do not remember in my own practice a single case in which, prior to making a vaginal examination, I had sufficient grounds for concluding that this displacement existed, though I often surmised, and as a subsequent examination proved, correctly, that such was the case. Thus, in the first of the cases which I have detailed, the most prominent symptoms were irritation of the bladder and difficulty in defecation; in the fourth, they were pains over the ovary and total inability to walk; while in the second regurgitant vomiting alone was complained of. Another case presented an example of uterine lameness, and in her the uterus was so tender to the touch, that sexual intercourse was impossible. In these cases, however, differing as they do in other respects, the menstrual function was similarly affected, being in all

much diminished in quantity. In two other cases, on the contrary, menorrhagia was the sole symptom which attracted the patient's attention. And, again, in a case recently under observation, although menstruation was profuse and weakening, the prominent symptom was paroxysms of intense pain. But though the result produced—namely, retroflexion—was in all these cases alike, the causes giving rise to that result were different. Thus, in those in which menstruation was diminished, the retroflexion was the result of congestion, terminating in chronic inflammation and slowly produced hypertrophy. In the others, where menorrhagia existed, it followed on subinvolution, the catamenial discharge being diminished or increased according as the condition depended on one or other of the causes named.

I have already noticed the occurrence of vomiting as having been the prominent symptom in one case; this of course, was due to reflex irritation; but the stomach is not the only organ liable to sympathise with the uterus when it is retroflected; the mammæ may be affected. Thus, I recently was consulted by a married lady, mainly for the purpose of deciding whether she was pregnant or not. She stated that four years previously she had given birth to a living child, and that subsequently she had several times become pregnant, but on each occasion had miscarried at the end of the third month. She supposed that she was now again pregnant, because she suffered from incessant nausea, while at the same time her breasts had become enlarged, painful, and distended with milk; but still she was in doubt, because the catamenia appeared not only regularly, but in increased quantity. I speedily satisfied myself that she was not pregnant. The uterus was retroflected. It was manifestly a case of subinvolution terminating in retroflexion. In this case a pessary

was at first badly borne, though finally one was introduced, which answered admirably.

From the consideration of the foregoing cases, I think we may fairly draw the following conclusions:—

1st. That retroflexion of the uterus is a common affection, and that it is met with both in married and unmarried females.

2nd. That it is generally a secondary, not a primary affection.

3rd. That when it is due to congestion, or chronic inflammation of the uterus, terminating in hypertrophy, the catamenia are diminished in quantity and frequently painful.

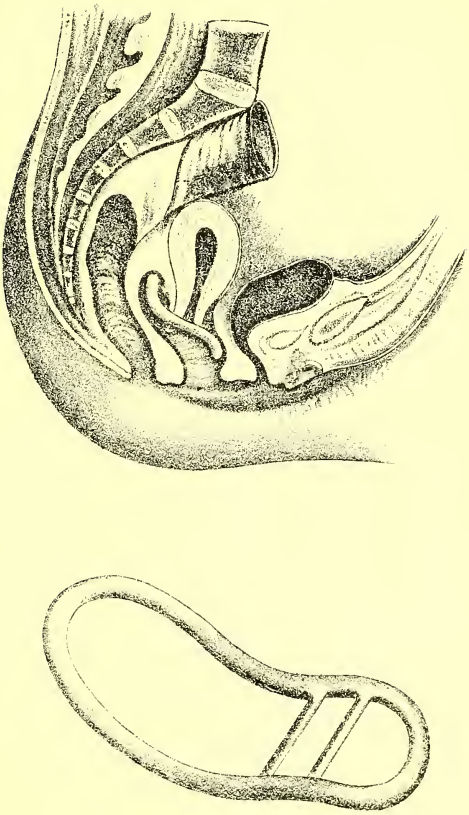
4th. But, that when retroflexion is the result of subinvolution of the uterus following labour or abortion, the catamenial discharge is increased in quantity, sometimes even to an alarming degree.

5th. That in addition to the symptoms common to all forms of uterine disease—namely, pain in the back, sense of weight, &c,—we have not unfrequently, where the uterus is retroflected, reflex irritation of the bladder, stomach and breasts, occurring as to frequency in the order given, and also constipation of the bowels.

It is seldom that much difficulty is experienced in recognising a retroflected uterus; you feel a tumour in the recto-vaginal *cul de sac*, which you can in most cases raise by making pressure on it with the finger; and in doing so you can generally satisfy yourself that it is the fundus of the uterus, the cervix of which lies in its natural position; but the use of the sound will decide the question; for, if the uterus be retroflected, the instrument will pass with its concavity towards the sacrum; and when introduced you can in most cases, by giving the handle of the instrument a half

turn, raise the retroflected fundus to its normal position. It will, however, drop back as soon as the sound is withdrawn, unless it be supported by means of a pessary. If the tumour be anything but the uterus, the sound will pass in its proper direction—viz., with the concavity looking to the pubes, while the tumour itself will not be influenced by rotating the instrument.

Great difference of opinion exists among practitioners as to the best mode of treating cases of retroflexion. Dr. Meadows would endeavour to cure the inflammatory condition, which is the chief cause of the patient's sufferings, before having recourse to mechanical treatment. I, however, think that where a pessary can be borne, the restoration of the organ to, and the supporting of it in, its proper position, will materially aid us in our efforts to effect a cure. Almost the only instrument that I use for the purpose of supporting the retroflected womb, is the modification of the ring pessary, known as Hodge's lever pessary; it is oblong in shape, and has a double curve (Plate IV.) When introduced it should lie in the position shown in the engraving. Those made of vulcanised India-rubber, on which the secretions of the vagina take no effect, are very nice instruments. I prefer them made with transverse bars; the cervix projects through the space behind the posterior one of these. Dr. Greenhalgh has suggested a very useful modification in the construction of these little instruments; he has them made of copper wire cased in India-rubber tubing, the wire however, is wanting at the lower or wide end, the India-rubber alone extending across that part. This is a double advantage, the yielding band of India-rubber adapts itself to the parts and never, by its pressure, irritates the neck of the bladder, which the rigid instruments sometimes do, and moreover it permits the sides of



Retroflexion, with Hodge's Pressary in Situ

the pessary to be approximated during its introduction, a matter of no small importance in many cases, where the orifice of the vagina is narrow, while the elasticity of the wire expands the pessary to its original width as soon as it is fairly within the vagina. I have repeatedly seen these "spring pessaries" worn with comfort by patients who could not tolerate the rigid ones. They have also this additional advantage that they in no way interfere with sexual intercourse. Instead of transverse bars Dr. Greenhalgh's have bands of India-rubber running across them. He recommends for the treatment of those troublesome cases in which prolapse of the anterior or posterior wall of the vagina exists, that large-sized pessaries be worn, in which these transverse bands extend down the entire length of the instrument, as is shown in the annexed engraving (Fig. 13); he finds that this

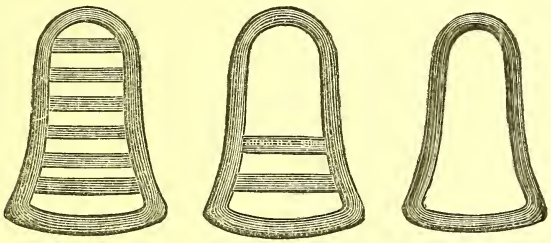


Fig. 13.

adds greatly to the patient's comfort. The only objection which I have found to exist is, that after a time their efficacy is apt to be lessened by the yielding and consequent stretching of these bands.

Whichever instrument you select, care must always be taken to see that it be of suitable size and length; for if one

be introduced which is too long, it will cause much discomfort, and perhaps actual pain; while, if the instrument be too small it will slip out; you must therefore have a number of these pessaries of various sizes by you, and remember, that the vagina varies greatly in size in different women.

A properly fitting pessary generally affords immediate relief to the patient, and may be left *in situ* for several weeks, or even months. I always, however, recommend patients to have it removed after the lapse of ten or twelve weeks, and not to have it replaced for a few days. By adopting this precaution, all danger of unpleasant consequences following its use will be obviated. Should, however, the uterus be so tender to the touch that the pressure of a pessary cannot be borne, I first endeavour to relieve that condition by local depletion, by puncturing the cervix; but leeching will no doubt do equally well if you prefer that method; the greatest relief often follows this practice. Dr. Hall considers repeated blood-letting, effected by puncturing the cervix, sufficient alone for the cure of flexions. This assertion is, however, too general: it is occasionally, but not generally sufficient. I always use it as an adjunct, supporting the cervix by means of the pessary, and subsequently endeavouring to bring the organ back to its normal condition by local depletion, practised at intervals of a few days. In fine, treatment directed to remove the cause of the flexion should be carried out, while, at the same time, the uterus should, if possible, be retained in its normal position by mechanical means.

Finally, I would urge on you the necessity of bearing in mind that cases of retroflexion are occasionally met with which seem to cause neither distress, nor even inconvenience, to the patient, and that such cases should not on any account be interfered with.

But the uterus, as mentioned at the commencement of this lecture, may be displaced in other directions besides backwards; the fundus may be thrown forward towards the pubes, the os being drawn upward, and looking somewhat towards the rectum. Anteflexion, as this displacement is termed, is of less frequent occurrence, and is less amenable to treatment, than retroflexion; it seldom produces such distressing symptoms as the latter does, the most prominent one generally being irritation of the bladder, manifested by a frequent desire to micturate. I do not think either, that the flexion is ever so marked as in the other—indeed, I believe that many of the recorded instances of this displacement were merely cases in which the natural inclination of the uterus forward became excessive, the womb not being *bent* on itself, but merely sloping more anteriorly than was normal.

Anteflexion may exist as a congenital malformation, more frequently however it is caused by the abnormal weight of the organ, the result of congestion, chronic metritis or sub-involution. In these cases if congestion or inflammation be present, I puncture the cervix just as in cases of retroflexion, and this treatment alone, often affords marked relief. As an example you have the case of H. E.; she is an unmarried woman, aged 30, of full habit and leucophlegmatic temperament; recently she has undergone much fatigue. She complained of severe pain, which she referred to a point immediately above the pubes, but suffered even more from a most distressing sensation, "as if" to use her own words, "something was going to fall out of her." On examining her, the uterus which was very low in the pelvis, proved to be completely anteverted, the os lay in the hollow of the sacrum, the fundus behind the pubes. The sound penetrated to the depth of

three inches. The cervix was much engorged—evidently the enlargement and subsequent displacement of the uterus, was the result of congestion. I punctured the cervix, which bled freely, at intervals of a few days, administered mild saline purgatives, and enjoined rest in the recumbent posture. This patient obtained speedy relief from the distressing symptoms she experienced. Menstruation became normal, and the uterus, without my having recourse to any mechanical support, regained its normal position. But then, this case was one of recent origin, and to that cause we may attribute the patient's rapid improvement, for when these affections become chronic additional measures are necessary. It is most important that the fundus should be raised to its normal position and retained in it. The former is in general easily effected by means of the uterine sound; the latter is a matter of much difficulty; when it can be tolerated, I prefer for this purpose a stem pessary, made of ebony, or vulcanised India-rubber. Dr. Graily Hewitt has invented a double curved one, for the purpose of supporting the anteflected uterus. It sometimes proves useful, but more often fails to act beneficially; while Dr. Greenhalgh uses flexible India-rubber stem pessaries; they being soft, do not cause much irritation, and are no impediment to connexion. They are to be had from Arnold and Sons, West Smithfield, London.

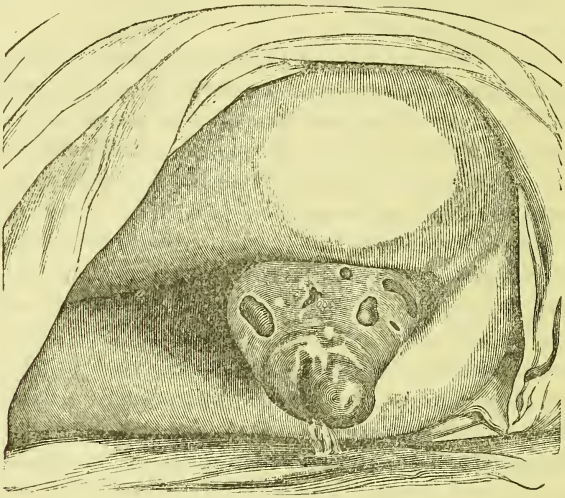
In all cases of anteflexion, the patient should be directed to retain her water for a longer and longer time each day, till the bladder becomes capable of considerable distention; for when distended it presses the fundus of the uterus backwards. Some time must elapse however, before she will be able to retain a sufficient quantity of urine to distend the bladder to even a moderate degree, for the capacity of that viscus is generally materially lessened in all these cases, from the patient's

having constantly yielded to the desire to micturate. But, in truth, anteflexion of the uterus often baffles our utmost efforts, and in a considerable proportion of cases we are able to effect but little good.

Prolapse of the uterus is another displacement of frequent occurrence, productive of great discomfort, and, in aggravated cases, of actual suffering, but it is by no means so common as is supposed. Great numbers of women, especially of the very poorer classes, present themselves among the extern patients, stating that "the womb is coming down," but on examination the uterus is found to be in its normal position, the sensation of dragging and bearing down, being due to a relaxed condition of the anterior wall of the vagina, which often protrudes slightly beyond the vulva, and is mistaken by the patient for the womb itself. When this proceeds to any extent, the prolapsed part contains a portion of the posterior wall of the bladder, and constitutes the affection known as cystocele.

Prolapse may be partial or complete: by the former we understand a protrusion of the cervix to a greater or less extent beyond the vulva; by the latter, the rarer form of complete extrusion of the whole uterus. When this occurs the vagina is everted, a portion of the bladder, and sometimes of the rectum also, being drawn down with it. In old standing cases of complete prolapse, the mass hanging outside the vulva is frequently enormous; in them the surface of the tumour, especially in the neighbourhood of the os uteri, is covered with extensive patches of ulceration, while the mucous membrane of the vagina, is so altered by exposure and the effects of friction as to resemble true skin. The annexed wood-cut illustrates this condition. The patient from whom the drawing was made, was under the care of my friend, Dr. McClintock, in the Rotundo Hospital; the prolapse was of

twenty-five years' standing. Details of the case will be found in Dr. McClintock's work on "Diseases of Women," p. 59.



Complete Procidentia with extensive Ulceration of the Os and Vagina (after McClintock).

These aggravated cases are not, however, of very frequent occurrence; more commonly when the patient stands for any length of time a portion of the cervix protrudes, receding when she assumes the recumbent posture. If, however, the case be neglected, the protrusion is sure to become gradually larger, and may in time remain permanently outside the vulva.

Prolapse is always a very troublesome affection, the tendency of which also, is to become slowly worse; judicious treatment however, often effects much good. Rest upon a couch, the lower legs of which are tilted up about a foot, fre-

quently proves of great use, especially if, as is generally the case, congestion be present.

Numerous kinds of pessaries have been invented with the view of supporting the uterus and retaining it in its proper position. The best for general purposes is Hodge's, the same which I recommend in cases of retroflexion. You should however, in cases of prolapse, choose one with transverse bars; they prevent the anterior wall of the vagina from coming down, and as this is the part which first protrudes, it is important to support it. Another pessary in general use is the disc of boxwood, or vulcanised India-rubber; those made of the latter are much to be preferred. Globular ones are also employed. I dislike them very much; they are difficult to remove, and sometimes, as occurred with the patient we had here the other day, can only be extracted with the aid of a blade of the forceps, or by the instrument devised by Dr. McClintock for this purpose, an instrument very like a corkscrew in appearance, the spiral end of which is to be introduced through one of the holes in the pessary, and traction then made. But, if the prolapse be large, or the perineum much relaxed, or if it have been destroyed by laceration occurring during labour, no matter what pessary you use, it will be forced out by the pressure constantly exerted on it. In such cases, unless you narrow the vagina by operative means, you can do but little for your patient.

This operation, originally suggested by Dr. Marshall Hall, has been modified and improved by Dr. Marion Sims. He removes the mucous membrane in the form of a V from the anterior wall of the vagina, the apex being near the neck of the bladder, and the two arms extending up on the sides of the cervix uteri. These denuded surfaces he then brings together by silver-wire sutures, passed transversely, thus including a longitudinal fold of the vagina, which has the

effect of narrowing that canal considerably. In some of his more recent operations Dr. Sims united the base of the V by a transverse dissection ("Uterine Surgery," p. 311). This without doubt is the best operation that can be performed, and holds out the greatest promise of a radical cure. But I must refer you to the work from which I have just quoted for further information on this point, as it is impossible for me at present to enter fully into this subject. If there be great deficiency of the perineum, or if prolapse of the rectum (Rectocele) exist, it may be necessary subsequently to perform an operation similar in principle, but differing in details, on the posterior wall of the vagina. This proceeding is advocated by Mr. Baker Brown. The first of these operations has for its object the narrowing of the vaginal canal, the latter the restoration of the perineum.

But neither of these operations have any direct influence on the uterus itself, which is often enlarged to a great degree. This enlargement in many cases is confined to the vaginal portion of the cervix, which becomes greatly elongated, while in not a few there is little if any descent of the uterus itself.

You saw a well-marked example of this in the woman who presented herself among the extern patients the other day. She is an over-worked needle-woman, and sits, she tells you, sewing for fourteen or fifteen hours a day. She suffers from partial prolapse of the uterus with great elongation of the cervix, the vaginal portion measuring at least two inches in length. She is unmarried. The perineum is perfect and the vagina narrow, therefore, in her case, neither of the operations just mentioned is applicable, but, on the other hand, in her you would effect much good by amputating the cervix. I have urged this on her several times, but she is unwilling to submit to the operation; probably the inconvenience and distress which she suffers will by-and-by compel her to do so.

The operation is a simple one: you can without difficulty remove the hypertrophied part by means of an *écraseur*. Great care, however, is necessary to prevent any portion of the wall of the vagina getting under the chain, for if this point be not attended to, it is possible that a fold of the peritoneum, or, as occurred in a recently recorded case, a portion of the posterior wall of the bladder, may be drawn in and removed, and give rise to very serious and probably fatal consequences. However, before having recourse to any operation, you should in all cases try palliative means. It is sometimes astonishing how much can be done by rest in the horizontal posture, by astringent injections and by the judicious use of pessaries.

One other form of displacement of the uterus requires mention—fortunately it is a rare one—I allude to inversion. As a rule this displacement occurs immediately after delivery, and if then detected, is generally capable of being reduced without any great difficulty; but, should the accident be overlooked, and the process of involution be completed, the case assumes a very serious aspect. It is to such cases as these that I now refer. The treatment of the recent form, you will learn when you come to study practical midwifery.

The prominent symptom present in cases of chronic inversion of the uterus, is undoubtedly hæmorrhage. On proceeding to examine the patient with the view of determining the cause on which that symptom depends, a tumour of variable size and smooth on the surface will be detected, projecting through the os into the vagina. This tumour may possibly be mistaken for a polypus, but a careful examination will enable you to arrive at a correct diagnosis. If the case be one of inversion, the sound, which you should invariably use in such cases, cannot be introduced, its progress being arrested

by the inverted wall of the uterus, while were the tumour a polypus having its origin from the inner surface of the uterus, the sound would probably penetrate to a considerable depth. At the same time the bi-manual method of examination will prove the fundus to be wanting in its normal position, a fact which can, if necessary, be confirmed by the introduction of a finger into the rectum.

In all cases of inversion of the uterus I am of opinion that an attempt should be made to reduce the displacement by means of taxis, carefully and judiciously applied, either directly, the hand being introduced into the vagina; or by the steady and continuous pressure exerted by an India-rubber bag introduced into the vagina and retained there, when inflated, by means of a bandage; or by first one and then another of these methods: but very great care must always be exercised whenever taxis is tried, otherwise the most serious consequences may follow the attempt. Chloroform, in all such cases, should be freely administered.

Should taxis fail, Dr. Barnes advocates incising either side of the cervix. He directs you to "draw down the uterine tumour by means of a loop of tape slung round the body, so as to put the neck of the tumour upon the stretch; then with a bistoury make a longitudinal incision about half an inch long and a quarter of an inch deep, on either side, into the constricting os; then re-apply the elastic pressure. Next day, try the taxis and re-apply the elastic pressure if necessary" (Obstetric Operations, p. 449.) Should taxis, steadily, carefully and repeatedly tried, fail to reduce the inversion, no means remain at our disposal save amputation. This if attempted should be performed with an écraseur. It is an operation attended with great risk, and one which should not be attempted unless demanded by the presence of the most urgent symptoms.

It is astonishing how often steady, continuous pressure exerted in the manner described will prove successful, but it is not sufficient that the fundus be returned within the os uteri. It is essentially necessary to take precautions to insure the complete restoration of the fundus to its normal shape, otherwise the case may be only converted from one of *complete* into one of *partial* inversion, a change hardly likely to be for the better. It is therefore advisable, if the finger be not long enough, to pass some smooth body into the uterus to prove that the restoration has been perfect, the bi-manual method of examination being besides invariably practised to confirm this.

LECTURE XIV.

Enlargements of the Uterus—Frequency of—Causes of considered with reference to diagnosis.

You must have noticed the extreme frequency with which I use the uterine sound. Indeed, I may say, that I invariably employ it in the examination of all cases presenting symptoms of uterine disease, unless its introduction be contra-indicated by the existence of some special cause. My reason for doing so is this, that in a very large proportion of such cases I find the uterus to be enlarged and elongated. The sound enables me to ascertain whether this be the case or not; should it be so, it immediately becomes my duty to endeavour to decide as to the cause on which that abnormal condition depends. I think, therefore, by directing your attention to some of the causes producing enlargements of the uterus, I shall aid you considerably in forming a correct diagnosis, in many cases of uterine disease; for, while the subject of flexions of the uterus has of late years been investigated with great care and has attracted quite as much attention as it deserves, the condition I am referring to, though intimately connected with, often indeed the cause of, these flexions, has been comparatively little noticed.

It is not surprising that the older writers should have overlooked this condition, for it is only of recent years that we possess the means of investigating them, and of ascertaining, with any approach to accuracy, whether, in a given case, the uterus was of its normal size and shape, or enlarged and

elongated. Now, however, matters are completely altered by means of the uterine sound we can, in the great majority of instances, measure accurately the depth of the cavity of the uterus, and, at the same time, the bi-manual method of examining enables us to satisfy ourselves whether or not the uterine walls are thickened and hypertrophied. Some practitioners still hesitate to have recourse to the uterine sound, but, after several years' experience, during which time I have employed it constantly, I am satisfied that it is not only one most useful, but also one of the safest of instruments.

Enlargements of the womb are met with in a very large percentage of those cases in which the symptoms are referable to the female organs of generation. Nor is this a matter of surprise when we remember the changes the uterus undergoes. In the virgin state but a couple of inches in length and an ounce or so in weight, it becomes, under the influence of pregnancy, developed into a large organ capable of containing the full-grown fœtus, and weighing several pounds; consequently any circumstance which retards or prevents the return of the uterus to its normal size after delivery, may produce, as is now well known, a condition which often results in permanent enlargement, a condition to which, as I have already explained, the term "subinvolution" is applied. But, in addition to these great changes, the result of pregnancy, the uterus every month, as each catamenial period comes round, increases in weight, and, probably, somewhat in size; if, from any accident or imprudence, the natural flow is then checked, that temporary increase may become permanent, an accident which, I am satisfied, is far from being of unfrequent occurrence. Here, then, at the outset, are two palpable causes of enlargement of the uterus.

But we meet with cases of enlargement of the uterus which cannot be referred to either of these classes. Women who

have never been pregnant, and never have had any derangement of, or departure from, healthy menstruation, and women who, having conceived, have subsequently enjoyed uninterrupted good health for years, during which pregnancy undoubtedly did not take place, nor yet any derangement of menstruation occur, occasionally begin to suffer from symptoms referable to the uterus, and, on examination, these are found to be due to enlargement of that organ. In such cases I believe this condition may depend on inflammation of the substance of the uterus, either of an acute or chronic character; on simple hypertrophy of the muscular and areolar tissue of the uterus; on fibrous tumours developed in the walls of the uterus; and also, as all are aware, on the existence of intra-uterine tumours of any kind, whether they be polypi, fibrous or cancerous tumours. But, it is not my intention to enter at all on the subject of either uterine polypi or uterine tumours, except with reference to the question of diagnosis. I also purposely omit all reference to the actual existence of pregnancy, or to the retention of any of the products of conception in the uterus, as being foreign to the subject to which I wish especially to direct attention.

To recapitulate, we meet with enlargement of the uterus as the result of—

1st. Subinvolution of the uterus after labour or abortion.

2nd. Congestion of the uterus from suppression or retardation of menstruation.

3rd. Acute inflammation of the uterus, or possibly of its peritoneal covering.

4th. Chronic inflammation of the uterus.

5th. Hypertrophy of the uterus.

6th. The stimulus given to the uterus by the development in its walls of fibrous tumours.

7th. The existence of intra-uterine tumours.

1. Subinvolution of the uterus is now a well-known cause of uterine enlargement. There is no doubt but it is most likely to occur in those cases in which any form of inflammatory attack, whether it be peritonitis, metritis, or cellulitis, takes place subsequent to delivery. This fact has been pointed out by several writers. If, then, a patient has suffered from any such attack, the possible effect of it in retarding the normal reduction in the size of the uterus, which should take place within a few weeks subsequent to delivery, must be borne in mind, and we should, in such cases, carefully watch for any symptom indicating the presence of this condition. As a nearly invariable rule, profuse menstruation is the first and most prominent symptom indicating the existence of enlargement of the uterus depending on subinvolution; a symptom capable of being easily explained, when we bear in mind the fact, that not only is there under such circumstances an undue amount of blood contained in the enlarged uterine veins, but also, that the relaxed condition of the muscular tissue of the uterus favours the exudation of blood. This profuse menstruation does not always occur immediately; sometimes a month or two first elapses; but, ere long, menorrhagia shows itself, frequently of so violent a character as to assume the proportions of hæmorrhage, and, on instituting an examination, the sound reveals the true state of the case by proving that the uterus is abnormally elongated. The depth of the uterine cavity varies greatly in such cases. I have met with one instance in which it measured seven inches and upwards.

I have already stated, that the occurrence of profuse menstruation was the earliest and commonest symptom of enlargement of the uterus the result of subinvolution. This is so generally the case, that I have drawn the inference that the occurrence of profuse menstruation in cases of retroflexion

of the uterus proved that the flexion was a secondary affection, the result of subinvolution of the uterus, and I still believe that as a general rule, this is correct, but there are exceptions, however, to this rule.

2. The occurrence of enlargement of the uterus from any cause suddenly checking menstruation is by no means rare, but the opportunities of proving this to be the case do not frequently occur; for if an unmarried woman complains of fulness, of pains in the head and in the back, of a sense of weight in the pelvis, and states that menstruation has been checked by exposure to cold or by some other obvious cause during the catamenial period, we are probably satisfied that uterine congestion exists; but, we are not justified in making a vaginal examination of any kind, unless, indeed, after a protracted trial, general treatment fails to relieve her. Again, if a married woman exhibits the same train of symptoms, the possibility of pregnancy existing precludes the use of the sound. Recently, however, I had an opportunity of verifying the fact. A widow, the mother of thirteen children, in whom menstruation had been irregular for three years, had in June last, after a long interval, a return of the discharge. It ceased suddenly, and she suffered great discomfort from a distressing sensation of weight and bearing down in the pelvis, and of fulness and pain in the head. In her case the uterus was three inches in depth, while all the symptoms rapidly subsided under treatment. It may be objected that, in this case, we were ignorant as to what might have been the condition of the uterus previously; but, here was a woman in the enjoyment of good health, suddenly attacked, after the abrupt checking of menstruation, with distressing symptoms, in whom the uterus was proved to be enlarged, and who was relieved of those symptoms and of that condition by treatment. Is it not then fair to reason

that the enlargement was a temporary condition, the result of uterine congestion, itself caused by the sudden checking of menstruation?

3. All modern writers agree that acute inflammation may produce enlargement of the uterus, and I believe that this may be the case, whether the patient suffers from peritonitis, metritis, or pelvic cellulitis. Of the two latter I have no doubt. Of enlargement of the uterus as the result of peritonitis, I had no experience till very recently, but the following case throws some light on the subject :—

Mrs. K., æt. 33, was admitted into the Adelaide Hospital in May, 1870. She was the mother of three children, the last of whom was born in March, 1869, fourteen months previous to admission. It appears that four weeks after her confinement, having been exposed to cold, she was attacked with severe pain over the whole abdomen. This pain, after a time, became localised in the left iliac fossa; and by degrees it, in a great measure, though not entirely, disappeared. At the expiration of two months from the date of this attack menstruation came on very profusely, and lasted for six weeks. She now obtained medical advice, and was treated for ulceration of the os uteri; but, although the menorrhagia was in some degree checked, the pain from which she suffered again became very severe. On admission into hospital the uterus was found to be retroflected, a certain amount of granular erosion existed, and menstruation was profuse. Her greatest distress, however, arose from an incessant dragging pain which she referred chiefly to the situation of the transverse colon. The uterus was enlarged to a trifling extent. The use of a pessary and other appropriate treatment speedily improved the condition of the womb, and she returned home apparently cured. At intervals, however, she still suffered from attacks of the abdominal pain. In the beginning of October she again

caught cold, and was re-admitted into hospital labouring under a well-marked attack of sub-acute peritonitis. Leeches, fomentation, and the exhibition of opium relieved her. During the course of this attack I twice measured the depth of the uterus, and found that it had increased nearly an inch in length. She did not menstruate during this attack.

This case contrasts strongly with one referred to on a former occasion, in which menorrhagia and pain of a paroxysmal character, referable to the uterus, were the prominent symptoms. It illustrated the occurrence of enlargement of the uterus as the result of endo-metritis.

4. Chronic inflammation of the uterus being more frequently met with than the acute form, is a more common cause of enlargement. Such cases are constantly coming under observation. They are frequently found in connection with retroflexion of the uterus. Of course all are aware, that it is a disputed point whether flexions of the uterus are a cause or a result of inflammation. For my own part, I am far from denying that flexions of the uterus, but more especially retroflexion, may take place independently of inflammation, still, I am satisfied that in the majority of cases, inflammation, or at least active congestion, is the primary and principal cause of these flexions, and this opinion, which I expressed in a paper published two years ago, enlarged experience has since amply confirmed. In such cases the symptoms are often very distressing. The following typical one, at present under my care in the extern department of the Adelaide Hospital, illustrates this:—

E. D., æt. 30, seven years married, has never been pregnant; about three or four years ago began to suffer from pain in the back, over the pubis, and in the left groin. Menstruation is scanty, and is occasionally suppressed for two or three months at a time. Sexual intercourse is painful. On exami-

nation, I found the uterus elongated and retroflected. This case, although an aggravated one, is typical as showing the sufferings due to enlargement of the uterus the result of chronic inflammation.

In each of the foregoing cases, the enlargement evidently appears to have been due to inflammatory action attacking a uterus previously healthy, so far at least as we had opportunities of judging; but, in some instances it seems to follow as the result of the treatment we have been compelled to adopt for the cure of other ailments. Eighteen months ago, I was consulted by a lady for menorrhagia. She was married but had never become pregnant. For a year previous to marriage, menstruation had been more profuse than formerly, but not to such an extent as to attract much notice. Since marriage, however, she had become worse, and at the time of her consulting me, not only was the discharge very profuse, but it also generally continued to flow for more than a fortnight. A vaginal examination detected extensive granular erosion of the os and cervix uteri. This condition was in time perfectly cured and the menorrhagia consequently ceased; but, I observed, that as this condition of the cervix improved, so did the uterus enlarge, the fundus becoming heavy and globular in shape; and yet, my treatment had not been characterised by the use of any severe remedy. I had hoped that after the unhealthy condition of the cervix had been cured, and all treatment had been discontinued, the uterus would regain its normal size and shape, but I regret to say such has not as yet, at least, been the case. I had an opportunity of seeing this lady a few days ago. The uterus, after the lapse of a year, remained unaltered; the fundus is quite globular; menstruation is scanty and occasionally painful. She has never conceived. My retrospect of this case is, that the treatment which it was absolutely necessary to adopt to check the

hæmorrhage and cure the unhealthy condition of the uterus, excited a certain amount of inflammation of the uterine tissue, which has resulted in permanent enlargement of the organ. A similar result, I am satisfied, not unfrequently takes place from congestion and chronic inflammation, unconnected with any ulceration whatever.

5. Next I shall call your attention briefly to that condition, which, for lack of a better name, I term hypertrophy of the uterus. I mean to include under this head those cases in which the whole of the uterus, or some portion of it, slowly and imperceptibly increases in size. Sometimes the cervix alone is implicated, that portion of the organ becoming elongated and thickened, or the body alone may be affected, while in other cases the body and cervix are equally engaged, and become thickened, enlarged, and frequently painful. The pain being apparently due either to hyperæsthesia of the nerves of the uterus, or to the pressure exercised on them by the hypertrophied tissue by which they are surrounded.

In these cases menstruation, as a rule, is but little altered in its character; sometimes it is slightly diminished in quantity, and not unfrequently becomes painful, but I do not remember meeting with a case in which hæmorrhage was present. I am of opinion that the condition of the menstrual functions will materially aid our diagnosis in doubtful cases; for if the enlargement be due to chronic inflammation, it will most probably be lessened in quantity; if to subinvolution or to the presence of any intra-uterine tumour, it will in general be augmented; while in cases of simple hypertrophy it is seldom altered, at least in any great degree.

The pathology of this form of uterine enlargement is very obscure; the fibres composing the muscular tissue of the uterus appear to be elongated and thickened, while there is also hypertrophy of the areolar tissue. Both conditions may

have their origin in a low form of inflammation which at the time escaped observation; but we cannot, in the present state of our knowledge, say, why in a certain case the cervix uteri elongates and enlarges, till by its very size and weight it irritates and causes distress; while, at the same time, the body and fundus of the uterus participating in the unhealthy condition of the cervix, become heavy and elongated; and in another, seem to remain in their normal condition. Excessive indulgence in sexual intercourse has been set down as a cause of enlargement and hypertrophy of the cervix, but I doubt this much. In my own practice, the case which of all others gave rise to the greatest amount of suffering and distress, occurred in an unmarried woman. Miss ——, æt. 40, came under my care nearly two years ago. She stated that about seven years previously she, for the first time, experienced pain in the back and over the pubes, and not long after a sense of weight in the pelvis, and that her suffering had ever since gradually increased. When I saw her she could not sit up for any length of time, and walking, even a short distance, caused much distress; she also complained of a troublesome itching at the vulva. On instituting a vaginal examination, the cervix was found to be elongated to the extent of at least an inch. It was thickened and hypertrophied, the supra-vaginal portion evidently participating in the abnormal condition of the organ. Menstruation continued to be performed regularly, but it was attended with much pain. She has ever since been under observation, though I have long ago abandoned any active treatment. This lady has been treated by leeching, by blistering, by the administration of the iodide of potassium and of the bi-chloride of mercury, and it is hard to say which of these did the least amount of good. The uterus has steadily increased in size, evenly and universally, and with its increase

so have her sufferings increased, till now she has become a complete invalid. In her case I at one time, before the body of the uterus became so manifestly enlarged, entertained the idea that amputation of the cervix might, by removing the cause of local vaginal irritation, be productive of benefit. But, as the operation certainly was not entirely free from risk, and as I became satisfied that the supra-vaginal portion of the uterus also participated in the diseased condition, I abandoned the idea. In this case I feel perfectly satisfied that the hypertrophy commenced at a very early age and gradually increased; it bears a strong resemblance to one recorded in Vol. II. of the work on "Diseases of Women," by Bernutz and Goupil, published by the Sydenham Society. Another case of hypertrophy of the cervix in an unmarried woman has since come under my observation. She is a dress-maker, æt. 28, an industrious woman, sitting at work upwards of twelve hours a day. She complained of weight in the pelvis and of bearing down. She also suffered from the most obstinate constipation. Menstruation was regular, but generally accompanied by pain. On making an examination the os uteri was found to rest on the perineum; the cervix was elongated and thickened, and the fundus slightly enlarged. This woman would not come into hospital, and consequently I have had no opportunity of trying the effects of treatment, from which, in truth, I would anticipate but little benefit.

Any person who has read the work just mentioned will at once see that the condition I am now referring to is very similar, if not analogous, to that termed by M. Huguier, "hypertrophic allongement" of the uterus, a condition which he divides into two classes—namely, sub-vaginal and supra-vaginal, a division the actual value of which I do not highly appreciate. I am inclined to the opinion that, although we may have enlargement of the body of the uterus without the

cervix being engaged, the cervix is never enlarged for any length of time without the supra-vaginal portion of the organ becoming implicated in the disease. I also believe that not a few of the cases recorded by M. Huguier were cases of subinvolution of the uterus following delivery, and not of the condition which I have termed hypertrophy.

But, in addition to these cases of hypertrophy with elongation of the cervix or of the body of the uterus, or of both, we meet with cases in which there is no elongation, but the very reverse. We sometimes find the cervix shortened, drawn up, as it were, into the body of the uterus, and sometimes disappearing altogether. In such instances the body of the uterus assumes a globular form. This form of enlargement gives rise to considerable distress, and it seems specially to cause intractable irritation of the bladder. In one case, which was for years occasionally under my observation, this symptom was the prominent one, and that for which the patient sought relief.

There is no form of uterine disease in which so little good can be effected by treatment as that to which I am now referring. If the body of the uterus be engaged, it seems nearly useless. If, however, we are satisfied that the cervix only is affected, amputation may be resorted to with advantage; or possibly local depletion and subsequently the repeated application of Dr. Greenhalgh's iodized cotton may effect some good.

6. It remains for me to allude, and I shall do so very briefly, to that form of uterine enlargement in which the organ is stimulated, and increases in size, from the presence of a fibrous tumour embedded in, or growing from, some portion of its walls. Cases are recorded in which a fibrous tumour of very small size, perhaps not larger than a nut, so stimulated the uterus that it increased to five or six times its

normal size, the cavity too being proportionally elongated. These cases are most perplexing, a *post-mortem* examination alone being capable of revealing their true nature. Fortunately they are not of frequent occurrence. I have not myself met with any case in which I was satisfied of their existence. In the great majority of instances a fibrous tumour sooner or later will bulge into the cavity of the uterus, or project out on the peritoneal surface. In either case the tendency of disease is to render menstruation more profuse; while in that form of enlargement depending on hypertrophy of the fibrous tissue of the uterus, and which is the only form liable to be confounded with the one now under consideration, menstruation, if interfered with at all, is more likely to be diminished than increased. The subject of fibrous tumours of the uterus does not come within the scope of the present lecture. I wish, however, to draw attention to those cases, of by no means infrequent occurrence, where enormous fibrous growths exist in which the womb is embedded and almost lost. These cases have over and over again been mistaken for ovarian tumours, a mistake which the use of the uterine sound may help us to avoid. It tells us not only what is the length of the uterine cavity, but also whether the uterus is free or embedded in the tumour.

Now, as to diagnosis. I have already stated that the sound and that alone enables us to decide as to whether the uterus be enlarged or not, but it affords us no clue as to the cause of the enlargement. A few general rules, however, if they do not enable us to give a positive diagnosis, will at least facilitate materially our decision as to the nature of any case. Thus, if we meet with an enlarged uterus in a woman who has aborted or been delivered at the full time, even though a considerable interval has elapsed, the proba-

bility is in favour of the enlargement being dependent on subinvolution, and this opinion will be confirmed if, as is nearly always the case, menorrhagia be present. If again metritis, pelvic cellulitis, or peritonitis be present or have occurred recently, the inflammatory action is fully sufficient to account for the condition of the uterus, and it should be always borne in mind that it does not follow that the enlargement will disappear with the subsidence of the inflammation; so again, in other cases, we should ascertain if menstruation has been checked or suppressed, and if symptoms referable to the uterus have followed on this; or if again, pain in the back and over the pubes was first noticed, menstruation being subsequently lessened or suppressed: in the former case we are likely to find that the enlargement depends on congestion, in the latter on chronic inflammation, while hypertrophy steals on gradually, menstruation being seldom interfered with. It is of no small importance to decide to which cause the enlargement is due, for while much may be done to relieve the sufferings caused by enlargement of the uterus the result of chronic inflammation, treatment seems utterly powerless in alleviating those produced by simple hypertrophy of the uterus. It is, indeed, a nearly hopeless ailment, one not likely to destroy life, but to render it a burden. Then, again, if we have menorrhagia in cases of enlarged uterus, unconnected with any of the causes noticed, we may expect to meet with intra-uterine polypus, or fibrous tumours. It will then be our duty to clear up the doubt which exists, by dilating the cervix and exploring the interior of the uterus.

As I have called your attention to the subject of enlargement of the uterus, with the hope that I may aid you in arriving at a correct diagnosis in cases in which that condition exists, I shall not enter at any length into their treat-

ment; that of subinvolution was fully discussed on a previous occasion (Lecture V.), and I must refer you to what was then said on the subject.

In cases of enlargement following sudden suppression of menstruation, the administration of saline purgatives, and subsequently of the bromide and iodide of potassium conjointly in full doses, will generally, if the case be recent, prove sufficient; but should it be neglected in the early stages, it will probably pass into the condition of chronic inflammation, a condition over which medicines possess little influence. The prolonged use of the bi-chloride of mercury, in small doses, has been recommended in these cases, but in my own practice I have not been satisfied that it produced any good effect. I have seen, I think, more benefit result from local depletion by puncturing the cervix uteri, as recommended by Dr. Hall, of Brighton, than from anything else, and I think it is a mode of treatment deserving a fair trial. To be of use this must be repeated frequently at intervals of about five days. The application, to the verge of the anus, of two or three leeches, immediately after the termination of a menstrual period, where menorrhagia is present in connexion with a relaxed and engorged uterus, also often proves beneficial. Both these methods act by relieving the congested condition of that organ, and thus facilitating its contraction. In conjunction with this treatment, I recommend the administration of strychnia with the addition of dilute nitric acid, or, if the patient be anæmic, with the tincture of the perchloride of iron. Strychnia is the most valuable medicine we possess in cases of menorrhagia in connexion with a relaxed atonic condition of the uterus. It is, however, contra-indicated in cases of chronic inflammation, unless that condition be first relieved by local depletion.

In cases where the uterus has become enlarged and har-

dened, as the result of chronic inflammation, the use of the waters of Kreuznach seems to have a very beneficial effect, and if the patient's means are such as to admit of her visiting that place, a trial should be made. As to hypertrophy of the uterus, treatment is seldom likely to effect good.

In cases of enlargement of the uterus from inflammation of an acute character, I believe rest, the exhibition of opium, and warm poultices over the abdomen to be the means on which we should rely; depletion, if practised at all, should be in a limited degree by the application of a few leeches. Mercury I consider to be not only useless but actually deleterious.

LECTURE XV.

Cancer of the Uterus—Pathology of—Forms met with in the Uterus—Medullary Cancer—Course of—Epithelial Cancer—Symptoms of—Hæmorrhage—Pain—Fœtid Discharge—Cauliflower Excrescence—Amputation of Cervix—General Treatment.

I PROPOSE to-day, gentlemen, to call your attention to the subject of cancer of the womb, of which disease we have had, unfortunately, several examples recently. You must not suppose that the subject is unimportant because the disease is, in all probability, not susceptible of cure, for you can sometimes prolong life, and always alleviate suffering; besides it is of great importance that you should be capable of recognising the existence of cancer and of being able to pronounce that a disease which may simulate it is not malignant. The idea of cancer is ever present to the minds of women, and few of them suffer from any chronic ailment, the symptoms of which are referable to the uterus, without fearing that they are the subjects of that dreadful disease, and are sure to question their medical attendant closely. I need not delay to point out how injurious it would be to your character were you to pronounce a woman to have cancer, who laboured under such a comparatively innocent disease, as inflammatory hypertrophy of the cervix uteri. Or, how lamentable would be the consequences, were you to assure your patient that nothing serious was wrong with her when death was inevitable. Yet, both these mistakes are frequently made; mistakes for which there is but little excuse.

Cancer of the womb is most frequently met with in women who have passed, or at least attained, middle age, but this rule must be received with great reservation. Women under thirty are not unfrequently attacked with it, and it is important that you should bear this in mind, lest, misled by the youth of your patient, you should give a favourable prognosis on what was in reality a hopeless case. Still, it is in the decade between forty and fifty that the greatest proneness to the disease manifests itself, 50 per cent. of all the cases occurring between these ages. This, you are all aware, coincides with the period at which what is termed "the change of life" in woman takes place, when menstruation and the other functions of the reproductive system cease.

There is no disease the symptoms of which are so uncertain as those which usher in cancer of the uterus; very frequently, indeed, it developes itself so insidiously that the patient's attention is only attracted to what she supposes to be a very recent malady, when in reality our first examination proves the disease to be far advanced towards its fatal termination. The patient, Mrs. S., in No. 6 ward, is a striking example of this fact. She believed herself to have been in good health up to the 4th of last month, when hæmorrhage set in; but this is impossible, for the entire of the vaginal portion of the cervix is already destroyed, the uterus is firmly fixed by the deposit of cancerous matter in the surrounding tissues, and a gaping opening, surrounded by a jagged, indurated and ulcerated mass, is all that is left of the lower segment of the uterus. Her end cannot be far distant. Yet it is but a month since her attention was first attracted to her condition.

Now, gentlemen, I must take it for granted that you all know something of the pathology of cancer. This is a part of the subject which I cannot dwell on at any length in a clinical lecture—I shall only say, lest I should have any

hearers who are altogether ignorant of the subject, that this dreaded disease consists primarily of the deposit, or more properly of the development, of an abnormal material in tissues hitherto healthy, and which, consisting in a great degree of cells of peculiar formation, has a great tendency to invade the neighbouring structures, and at a later period to take on a process of destructive ulceration. Dr. West, adopting the words of Müller, defines cancer to be "those growths which destroy the natural structure of all tissues, which are constitutional from their very commencement, or become so in the natural process of their development, and which, when once they have infected the constitution, if extirpated, invariably return, and conduct the person who is affected by them, to inevitable destruction." But, in truth, the origin of these growths is a puzzle to pathologists. Of the various forms of cancer, two only are as a rule met with in the uterus —namely:

1st, the Medullary, and

2nd, the Epithelial.

Instances no doubt of the true scirrhus, or hard cancer, and of the colloid, or gummy cancer are recorded, but they are exceedingly rare, and we may for the present set their consideration aside, the more so as, with the exception of the greater slowness of progress, there is not any essential difference between the course of these two varieties and that of the medullary form.

As already stated, the first step in the production of the disease is the growth of the cancerous matter in the substance of the healthy organ, and I may here remark that it is in the vaginal portion of the cervix uteri that this nearly invariably occurs. Why this should be is not clear, but such is the fact. In a few rare instances, however, the body, or fundus, is the seat of the disease. Cancer appears in general first to

attack the submucous tissue of the vaginal portion of the cervix, and subsequently to extend to its muscular structure. Very soon the adjacent parts become implicated. Cancerous matter is deposited between the uterus and the bladder anteriorly, and the rectum posteriorly, and in consequence the cervix becomes fixed and immoveable. By-and-bye the mucous membrane at some point gives way, and an ulcerated surface is formed. The feeling communicated to the finger by this ulcer is unmistakable. It is hard, irregular, with sharp edges, and generally bleeds on the slightest touch. The ulceration extends with considerable rapidity; occasionally, indeed, granulations arise on its surface, and at one point an attempt may be made at cicatrization; but this soon gives way, the granulations disappear, and the disease spreads as before.

When this stage is reached, we generally find a most characteristic discharge present. It is dark in colour, profuse and fœtid. Sometimes the fœtor is so strong and unmistakable that it is possible to diagnose the disease from the smell alone, even before we make any examination; but this is not always so. The patient whose case I have alluded to is an example of this latter condition, for though the disease is in such an advanced state, she has but little discharge and that by no means fœtid. Hæmorrhage, too, if not previously present, is now nearly sure to occur, and it is very probable that the decomposition of clots of blood within the uterus may be one, though not the sole, cause of the fœtid character of the discharge. The disease is all this time spreading upwards, and engaging the body of the uterus, and sometimes cancerous masses project into its cavity, while, at the same time, the vagina also nearly invariably becomes involved. Sometimes, the posterior wall being affected, the disease extends backwards till the rectum becomes implicated; but, more commonly, it is the anterior wall which is chiefly engaged.

When life is prolonged beyond this stage, the ulceration may destroy not only the muscular structure of the vagina, but also the adjacent walls of the bladder or rectum, or even of both. And then to the sufferings previously experienced, are added the miseries incidental to vesico- or recto-vaginal fistula. Under such circumstances death is brought about by a process of gradual exhaustion; more frequently, however, the patient sinks at an earlier stage from the effects of the constantly recurring hæmorrhage. The following accurate description of the *post-mortem* appearances usually met with in cases of cancer is given by Mr. H. Arnott, in Vol. XXI. of the "Transactions of the Pathological Society of London." "It will be noted that in nearly every case the seat of disease is the same. The os and cervix are more or less completely destroyed, and the foul ulcer resulting includes the upper part of the vagina. In more severe cases the floor of the bladder is invaded, and perhaps freely perforated, whilst even the rectum may be opened into the vagina, the uterus itself being sometimes almost wholly consumed in the general havoc. In one remarkable case the os and cervix remained, whilst the whole body of the uterus was destroyed by cancer." The pelvic glands are frequently the seat of secondary cancerous deposit, while in not a few the ovary and even more distant organs, including the heart and lungs, become implicated in the disease.

Now, with respect to epithelial cancer, which is the other form so commonly met with in the uterus. It differs from the medullary in this, that it is generally developed as an outgrowth, or excrescence from the cervix uteri. In general, it seems first to appear as a tubercle, this increases rapidly, after a time it becomes fissured, and branches out, so as to form a soft irregular mass, which, from its resemblance to the vegetable of that name, is commonly called "cauliflower

excrescence," a resemblance, however, which is frequently wanting. The discharge to which it gives origin is very profuse and watery, but is not generally so fœtid as that proceeding from the medullary form. This growth often attains considerable size, sometimes forming a mass which fills the whole vagina, and, being very vascular, is invariably accompanied by hæmorrhage.

Epithelial cancer occasionally attacks the vagina as a primary disease. We have had two examples of this recently in hospital: in one, the superficial ulceration extended to the very vulva, and the patient sank worn out by pain and repeated though trifling attacks of hæmorrhage. In her case the entire surface of the vagina was constantly covered with a dark pultaceous slough. The other was admitted for profuse hæmorrhage which threatened life. This was found to proceed from a spot on the anterior wall of the vagina, not larger than a split pea; it was hard to the touch, and had a puckered appearance. In a third case, a large mass of epithelial cancer grew from the posterior part of one labium.

Having thus given you an outline of the course which cancer usually runs, I must return to the symptoms it gives origin to. In the early stages at least they are most vague and uncertain—to such an extent, indeed, is this the case, that we not unfrequently meet with instances in which the entire of the lower portion of the cervix uteri has been destroyed by the ravages of disease, and yet the existence of cancer has never for a moment been suspected either by the sufferer herself or by her friends. The patient to whom I have already referred affords a well-marked example of this. She is a married woman, æt. fifty, has given birth to twelve children, and has had two miscarriages. Six years ago she ceased to menstruate, and was perfectly free from any symptom of uterine disease up to the 6th of last December, when

she noticed a discharge which resembled in all respects natural menstruation, being red in colour, free from smell, moderate in quantity and not accompanied by pain. The appearance of this discharge did not cause her any anxiety, and she continued apparently to enjoy her usual good health till three weeks ago, when (on the 4th of January) she was suddenly attacked with profuse hæmorrhage, which has not as yet entirely ceased. At no time has there been any fœtid discharge, nor did she suffer pain, except a dull back-ache, apparently the result of debility. But, on making a vaginal examination, we found the uterus fixed by the deposit of a large quantity of cancerous matter into the tissues surrounding the organ, while the lower portion of the cervix is already destroyed by the process of ulceration, and a wide, gaping, irregular opening, leads up to the body of the uterus. Now, this case is very instructive—it shows how insidious the disease may be. Not only is there an extensive deposit of cancerous matter, but a considerable portion of the uterus has been destroyed by ulceration, and yet, till three weeks ago she presented no symptom of disease, except the slight coloured discharge which appeared four weeks previously, and which she believed to be a return of normal menstruation. Moreover, it shows that you may have extensive cancerous ulceration without its being accompanied either by pain, fœtid discharge, or any appearance of cancerous cachexia. But cases of cancer usually present all these symptoms in a greater or less degree. You will, therefore, be correct in considering hæmorrhage, fœtid discharge, pain and cancerous cachexia as being the symptoms of cancer of the uterus, though none of them are necessarily present. I shall say a few words on each.

First, with respect to *hæmorrhage;* it is the most common and most important of them all; it is also the one which, as

in the present instance, is generally first noticed. If the patient has not ceased to menstruate, she will probably tell you that her attention has been attracted by observing the catamenia to become much more profuse, and to last a longer time than formerly; then, that the discharge has commenced to appear irregularly, returning at intervals of a few days, till finally it is almost continuous. If, on the other hand, she has passed the "climacteric" period of life, the first symptom most probably will be—as was the case with the patient first alluded to—the sudden appearance of hæmorrhage, which is occasionally profuse. Sometimes hæmorrhage occurs before any ulceration has taken place; this is especially likely if menstruation have not previously ceased; but it is after ulceration has occurred that it, as a rule, becomes so prominent, and often so alarming a symptom. Cases, however, are met with in which it is not present at all; they are, however, rare. It may not be an early, or a prominent symptom, but seldom, indeed, is it altogether wanting. In general, as the disease advances and the ulceration spreads, the bleeding becomes more profuse, sometimes in the form of a continuous draining, more frequently as well-marked attacks of hæmorrhage, occurring at short intervals, often alarming, and threatening life itself, sometimes even proving fatal, though much more frequently the patient dies from the exhaustion consequent on the frequent losses of blood.

Pain.—Of all the symptoms indicative of cancer, pain is the most fallacious. Cancer, in its early stage, is, without doubt, in general a painless disease. This statement is, I am aware, directly at variance with preconceived notions. Women invariably associate the idea of pain with the existence of cancer, and believe the absence of suffering to be impossible; this is, however, a popular error. I have but to refer to Mrs. S., the patient to whose case I am specially

calling your attention, as a proof of this. Here is a woman dying of cancer, and yet she is entirely free from pain; I fear, however, that her prospect of this immunity from suffering continuing to the last is very doubtful, for as the disease progresses, pain is seldom absent; frequently, indeed, it becomes almost unbearable, so terrible are the paroxysms, so excruciating the agony. Bear in mind, however, that this applies to the stage of ulceration only. This absence of pain forms one of the chief diagnostic marks between chronic inflammation of the cervix and *cancer in its early stages.* When you meet with a patient who has for a lengthened period suffered from pain referred to the back, to the uterine and especially the ovarian regions, shooting down along the inside of the thigh, and who, on examination, proves to have a thickened, indurated cervix uteri, the probability is, that this is due to long-continued inflammatory congestion and not to malignant disease.

But, as already mentioned, this immunity from suffering generally ceases after ulceration has taken place; we find, too, that the attacks of hæmorrhage often come on during severe paroxysms of pain, and seem to relieve them, leading to the supposition that the pain is due to some form of congestion, for were it not so, the hæmorrhage could hardly bring relief, as undoubtedly it often does; but, be this as it may, the fact remains, that the terrible sufferings in the second stage of the disease present a marked contrast to the immunity experienced in the first; and though there may be occasional instances in which pain is absent even to the last, they are unfortunately rare.

Fœtid Discharge.—This, too, is a symptom of variable occurrence; ordinarily a colourless discharge accompanies the early stage of malignant uterine disease, but not to an extent sufficient to alarm the patient; as changes in the

cervix take place, however, an open cancerous ulcer is formed, the discharge assumes a different character, it becomes more profuse, dark-coloured, and fœtid. In many instances, this odour is so marked, that without asking a question or making an examination, the experienced physician can pronounce the patient to be suffering from malignant disease. Sometimes the fœtor is intolerable, and the profuseness and acridity of the discharge so great, as to add materially to the patient's suffering by giving rise to painful excoriations. In epithelial cancer, the discharge is more watery and seldom so fœtid as in the medullary form.

Both the cases of cauliflower excrescence which have been for some time past in our ward, differ in many respects from that of Mrs. S., who afforded us an illustration of the medullary form. One, E. K., aged only twenty-three, is five years married, but has never been pregnant. She states that she was quite well till about two months ago, when menstruation became suddenly profuse; shortly afterwards she perceived a fœtid watery discharge to appear in the interval between each period. She suffered from severe left side pain of a paroxysmal character, which became aggravated before each attack of hæmorrhage, and also by diarrhœa. On examining her after admission, the whole of the upper third of the vagina was found to be occupied by a large mass of epithelial cancer; the disease had also extended to the anterior wall of the vagina. Her case was hopeless; we could but relieve her pain by subcutaneous injections, and check the discharge by astringent lotions, and by the exhibition of gallic acid, acetate of lead, opium, &c. She died shortly after.

In the other case, I at first entertained hopes of being able to save, or at least to prolong life.

This patient was a young woman, aged twenty-eight, five

years married, and had given birth to one child, who, at the period of her admission into hospital, was four years old: in the interval which had elapsed since its birth she had had three miscarriages, the last occurring twelve months prior to her admission. Her health had been very good up to October, 1869, when she, for the first time, remarked a sanguineous discharge, which appeared in the interval between two regular menstruation periods. It only lasted three or four days, and then ceased, but subsequently reappeared at irregular intervals during the next four months, never lasting more than a few days; and as her general health continued good, she paid no attention to it. In March last this discharge became more profuse, and she was admitted into the hospital on the 16th of April. She was in a very anæmic condition. She complained of weakness and of pain in the back, but of nothing else. The discharge, which was very profuse, was of a sanguineous watery character and not very fœtid. On making a vaginal examination, a cancerous mass, about the size of a hen's egg, was found, growing mainly from the posterior lip of the os uteri; the anterior lip was also engaged, but in a less degree. The vagina was not implicated in the disease, the uterus was moveable, and on passing the finger upward, the cervix uteri appeared to be perfectly healthy. I therefore thought it to be one of those cases in which it would be justifiable to give the patient a chance of prolonging life by operation, and determined to attempt the amputation of the entire of the cervix uteri above the diseased portion. This was done accordingly with the écraseur. Much difficulty was experienced in getting the chain round the cervix, the mass being large and filling up the vagina. However, after some little manipulation, I succeeded in encircling the cervix above the growth, but the moment I attempted to constrict the cervix by tightening the chain, the

apparently healthy tissue yielded, the chain of the écraseur became entangled and embedded in a mass of soft cancer, and I found it impossible to remove the entire of the cervix. We succeeded, however, in getting away a large portion, and the stump was then freely cauterized with strong nitric acid. The patient experienced no pain subsequently and she improved greatly after the operation; the hæmorrhage entirely ceased; she put up flesh, and was discharged after a few weeks. I was aware at the time that this improvement could only be temporary, and I was not, therefore, surprised when the poor woman again sought admission in December last. She was then in a hopeless condition, dying rapidly, and she expired in the beginning of the present month.

On making a *post mortem* examination, the body of the uterus was found to be perfectly healthy. The cavity did not exhibit the slightest trace of disease; it was entirely confined to the lower portion of the cervix, from which the cancerous mass could be seen growing. The vagina, which had not been affected when she was first admitted was also engaged.

This case presented four points of interest. First, the age of the patient; it showed at what a very early age this form of cancer may attack the uterus. Secondly, it illustrated the possibility of hereditary taint, as she stated that her mother and two of her own sisters had died of uterine cancer. Thirdly, it showed in what an insidious manner epithelial cancer may come on. When she was admitted she was in a hopeless state, and yet believed herself to have been ill but for a few weeks, and complained of weakness only. Lastly, as to the operation. It proved how very unpromising it is. However, this was a case in which it was justifiable, and the woman's life certainly had been prolonged by it.

As a commentary on this case, the following extract from

Dr. Graily Hewitt's work is very appropriate :—"As a palliative measure frequently, as a curative measure occasionally, amputation of the cervix uteri (in such cases) is a valuable operation; it may possibly prevent a fatal result altogether; it will almost certainly postpone that fatal result even when inevitable. The bleeding and a copious exhaustive discharge are at once arrested—and for a time the source of danger is removed." I can add nothing to this passage; and though in cases in which extirpation is out of the question, I shall continue to use nitric acid or caustic potash as I have hitherto done; or try the acid nitrate of mercury as suggested by Dr. Baker, of New York; or even, perhaps, that rather unmanagable remedy, bromine, which, according to Dr. Routh, "not only arrests the disease locally, but also the cachexia which accompanies it;" still I agree with the observations of Dr. Kidd in the *Dublin Quarterly Journal* for May, 1871,—"That amputation, where it can be performed, is not only a safer, but a more efficacious and less painful mode of treatment" than any of these.

I have hitherto spoken of cancer as being a disease of the cervix uteri, and in the very great majority of instances this is true; but even to this rule there are exceptions, though they are very rare. The only example of it which has come to my knowledge, was one brought under the notice of the Pathological Society by my colleague, Dr. James Little. Neither the rectum, bladder, vagina, nor cervix uteri were invaded by the disease, but the whole of the body of the uterus seemed to have been converted into a mass of encephaloid cancer, and yet had a speculum been introduced in this case, the os would have been found small, and without any appearance of disease. With respect to such cases as these I have only to say, that, impotent as we generally are for good when cancer attacks the cervix, we are utterly

powerless when the disease originates in the body of the womb.

When speaking of chronic inflammation of the cervix uteri, I mentioned that the induration which it produces has been mistaken for that which results from cancer. I think I shall best enable you to form a correct diagnosis between these two affections by following the example of Dr. West ("Diseases of Women," p. 384), and arranging the symptoms of both in a tabular manner, so that you may the better be able to compare them.

In Chronic Inflammation of Cervix.	*In Cancer.*
The history of the case is always chronic, often dating back several years.	History—Symptoms seldom noticed till within a comparatively recent period.
Pain—always present; generally more severe over left ovary than elsewhere.	Pain—Seldom felt in the early stages; most severe in the back.
Menstruation scanty and frequently painful.	Menstruation—If patient be young will be increased; if advanced in life, hæmorrhage may be the first symptom noticed.
Digital examination—Cervix feels hard to the touch, but smooth; pressure with the finger causes pain.	Digital examination—Cervix indurated, uneven and nodulated; pressure does not cause pain.
Uterus—Moveable.	Uterus—fixed.

Vagina—Not implicated.	Vagina frequently implicated.
Discharge—Inodorous and muco-purulent.	Discharge—Generally fœtid.

Having given an outline of the ordinary course which cancer of the uterus follows, and dwelt on its leading features and symptoms, I must in conclusion allude to the treatment. Unfortunately we can seldom do more than alleviate the most prominent symptoms. With the view of deadening the pain, opium in some shape or form must still be our main reliance; chloral will often fail, if the sufferings be excessive, even to produce sleep. If it does not I prefer it to opium. You will have to give it in doses of from twenty to forty grains at bedtime. One objection to the administration of this medicine in large doses is the quantity of fluid in which it is requisite to have it dissolved, namely, ten grains of the salt to an ounce of fluid. I think you will find that syrup of orange peel best cloaks its nauseous taste; the addition of half a grain of codeia to each dose greatly increases its hypnotic powers. Opium is best administered either *per rectum*, in the form of suppositories, or by being injected subcutaneously, commencing with $\frac{1}{8}$ or $\frac{1}{4}$ gr. of morphia. No doubt the subcutaneous injection of morphia acts more rapidly, and its effects last longer than those of opium administered in any other manner, while it is, I think, less deleterious in its after consequences. Of astringents administered with view of checking the hæmorrhage, gallic acid is, I think, the best. If the bleeding be very severe you may be compelled to plug the vagina; but, I prefer in these cases, endeavouring to stop it by the direct application to the cervix of a pledget of cotton saturated with a strong solution of the perchloride of iron in glycerine.

To lessen the fœtor of the discharge, you had better add half an ounce of Condy's fluid to a pint of tepid water, and direct this quantity to be thrown up the vagina at least twice a day. Another lotion which is sometimes useful both in allaying the pain and lessening the discharge, is a solution of nitrate of silver of the strength of ten grains to the ounce—two or three ounces of this should be injected at a time. Of internal remedies, arsenic and iron are the only ones which will effect any good, indeed I confine myself nearly altogether to the administration of the latter; and of its various preparations I prefer either the tincture of the perchloride, or, if the stomach be irritable, the ammonio-citrate of iron. The diet should of course be nourishing, but unstimulating. In cases of cauliflower excrescence there is always the chance, if the case is seen early, of your being able to prolong life by amputating the cervix, or of destroying the growth by repeated applications of caustic potash; this latter I effected in the case of a woman aged nearly sixty. The disease however returned after the lapse of a few months, and then proved fatal. Indeed, no matter what treatment be adopted, you should always let it be clearly understood that the result is very doubtful.

THE END.

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